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ABSTRACT

This report outlines the development and evaluation of a library instruction program at Macquarie University in Australia designed to help students use the subject catalog more quickly and effectively. Phase I of development established: (1) objectives; (2) two methods of teaching--performance instruction and simulation of a real library situation; (3) two programs similar in sequence and content-- audio-tutorial with tape and mini-catalog for individuals and tape/slide for group instruction; and (4) three evaluation instruments--objective test on effective use of the subject catalog, performance test on search ability, and attitude survey. Trials revealed a weakness in failure to consider in detail the level of knowledge and skills to be reached by students. Phase II concentrated on curriculum development and combined the original programs. Evaluation instruments included background information, reaction to program, tasks tests, and six parallel versions of a skills test. The program was judged successful in methodological aims and partly successful in program aims, based on trial administration to randomly selected students and groups. Plans for implementing the program and suggestions for adapting it to other libraries and age groups are discussed. Bibliography and other references are attached, as well as tests, scripts, evaluation forms, and surveys. (KP)

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THE USE OF A UNIVERSITY LIBRARY'S SUBJECT CATALOGUE: REPORT OF A RESEARCH PROJECT

by

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A research project
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PREFACE

The interest in the subject catalogue as an area of research arose from the development of the reader education program within Macquarie University Library. Library staff are actively engaged in assisting large numbers of readers to develop skills in finding information. The financial support from the Australian Advisory Committee on Research and Development in Education made it possible to design and carry out a research project to develop and evaluate methods of teaching students how to use the subject catalogue. This financial support is gratefully acknowledged. The research assistants are listed in Appendix A. In addition, much work was done on a voluntary basis over and above normal duties by various members of the University. Members of the Technical Services Department, the Reader Services Department and the Audio-Visual Section of the Special Collections Department of the Library made valuable contributions to the project.

The project team wishes to acknowledge the help of members of Library staff who assisted in various ways, particularly Patricia Lucas, for early work in compiling the mini-catalogue and for other advice. Other members of the Catalogue Department participated in the experiment as well and gave valuable help in administering the trials of the program.

The help and advice of members of the staff of the School of Education are gratefully acknowledged: Professor H. W. S. Philp, who supported the project; Dr. N. L. Baumgart, Dr. J. N. Johnstone who gave advice about the design aspects of the project; staff associated with Course 06102, Mr. P. F. O'Brien, Mr. S. J. Doenau and Mrs. Lola Baumgart; and students from 06102 for taking part in the project. Dr. G. R. Meyer and the staff of the Centre for the Advancement of Teaching gave valuable assistance and advice. The help of the master teachers associated with the Teacher Education Program in allowing groups of high school students to use an early version of the tape/slide program is also greatly appreciated.

Thanks are due to Professor Wilma Radford, formerly Head of the School of Librarianship, University of New South Wales for acting as a referee and for advice in the design of the application for research funds.

The project team appreciates the patience and tolerance of their colleagues and helpers in a project which took longer than anticipated. Some unexpected delays and difficulties of continuity occurred through changes of personnel and the need to fit the project into work schedules which continued to grow rapidly to a point where they were much more than full. But it is in the environment of busy and under-staffed libraries that the development of reader education programs must be carried out and applied. The exigencies and pressing needs of the day-to-day working situations were therefore constantly brought home to the research group.

The views and opinions expressed in the report represent those of the authors. Any errors or omissions are the responsibility of the senior investigator. It is almost impossible to identify the origins of all the ideas and contributions in a corporate project of this kind. If any contributors have been overlooked in specific acknowledgements, we hope that they will forgive us.

Despite any shortcomings it may have, it is hoped that the report will be an impetus to further projects and co-operative activities amongst university and college libraries.

December, 1975

NOTE:

It should be noted that the project was completed in 1975 and the report was written during 1975 and received limited distribution in draft form early in 1976. Because of various delays, the report was not corrected for the printer until March, 1977.

March, 1977

1. INTRODUCTION

In the last ten years most Australian university and college libraries have undertaken programs aimed at teaching students how to use library systems and find information. However, there has been little evaluation of the effectiveness of the methods used and of students' reactions to them.

Although reader education programs are emerging which attempt to provide bibliographic instruction at various academic levels, there is little doubt that in the past there has been a heavy concentration on first-year students, usually by means of orientation programs. Traditional library orientation programs include tours of the library, films, lectures, videotapes or slide/tape presentations which tell students in a brief, concentrated form what they are expected to know about the mechanics of using a library.

The concept of a single library lecture or orientation session which is expected to meet a student's information search needs for all time is a damaging one. To the student, the session is often presented at what may be the worst choice of times, i.e. too early in the academic year to be really relevant and at a time when there is competition from a variety of miscellaneous orientation sessions. To the academic and to the student alike, it may have the effect, through its superficiality, of confirming the persistent notion that a single short session of library instruction will suffice to make the student competent in library use and information searching techniques. The risks of underestimating the need for adequate instruction in use of the library are considerable.

The project at Macquarie University Library owes much to the written account of the Monteith College Library experiment which was devised and carried out by the late Patricia Knapp. 1 Dr. Knapp's work was challenging and innovative and is still unsurpassed in its field. The ultimate purpose of the Monteith Library program was "to stimulate and guide students in developing sophisticated understanding of the library and increasing competence in its use". 2 To achieve this end it attempted to provide students with learning experiences which were functionally related to their course work. Unfortunately only the pilot project phase of the Monteith Library program was completed.

The Subject Catalogue was chosen as an area for investigation because it is the basic starting point for many information searches. Yet in many reader education sessions conducted at Macquarie University Library in conjunction with the teaching Schools, it is possible only to describe and summarise it because of time constraints. Although statistical data is not available, it would seem that many students lack a basic skill in using the Subject Catalogue. The extent to which a student becomes skilled in its use is haphazard and depends largely on his enthusiasm and his subsequent course assignments. In this project, students were to be taught the use of just one bibliographical tool, and since its effective use involves a number of practical skills, students were to be given the opportunity to practice these skills and to receive feedback on their performance.

Bibliographical tools, such as the subject catalogue of a large university library collection, are complex to use. At the same time, library catalogues are constructed according to formal rules and conventions. These are designed to enable users to consult the catalogue with minimal guidance from library staff.

Macquarie University Library has an alphabetical subject catalogue containing subject headings used by the Library of Congress. Since these subject headings are based on natural language, the catalogue is limited by the inconsistencies of human speech. For example, changes in terminology which occur in a living language cause some old fashioned terms to continue to be used, while some new terms are slow to be adopted as headings. Users may also experience problems with the alphabetical arrangement which causes similar subjects to be dispersed according to the initial letters of the subject headings.

One of the most important principles of an alphabetical subject catalogue is "specific entry" whereby works are entered under specific subject headings and not under the heading of a class which includes that subject. This principle causes difficulties to those readers who do not attempt to understand the underlying basis of the subject catalogue.

Lipetz [3] has pointed out that a catalogue search is basically a word-matching procudure in which the searcher seeks to match some known clue, which is commonly a work or a phrase or an author's name against the heading in the catalogue file. Earlier studies (e.g. those of Merritt [4] and Brown [5]) have shown that academic staff and higher degree students tend to use the Author Catalogue much more than the Subject Catalogue when searching in their own subject fields because they generally have an exact author citation to the work they wish to consult. However, students and any other readers who want to find information on a subject in which they do not have author citations begin their search by using the subject catalogue.

Reader education programs in libraries emphasise the subject approach in information. It is often assumed that readers can use the subject catalogue but it is probable that many readers, including advanced students, cannot. These are subjective judgements. It is desirable to have objective data on which to build effective programs to teach students the required skills. What we wanted to develop and evaluate was a program that students would find interesting, that helped them to use the subject catalogue more quickly and effectively than before and which could be offered to staff in charge of courses and to students themselves.

It was realised that a good tape/slide program would take many manhours to develop. It was therefore desirable to develop a program which could be kept up-to-date and that could be adapted by other institutions.

It was considered that a program on the use of the subject catalogue could not only teach students how to gain access to the Library's book collection but would develop skills in information searching which might be transferred to other areas, e.g. defining a topic and the most appropriate subject terms to search out.

For some time, library staff at Macquarie University had experimented with an audio tape accompanied by a miniature sample catalogue illustrating the organisation of the subject

catalogue. The current investigation extends this idea, using two methods which are widely used to aid learning: instruction where performance is an integral part of the learning experience, and simulation where the use of a simplified environment maximises the learning experience. The project aimed to teach library skills in a controlled or simulated environment with a sample miniature catalogue and a limited collection of library materials, thereby providing the student with immediate success in his search for information.

To the knowledge of the project team, these two methods which are widely used to aid learning have rarely been applied to teaching students how to use the library. The first is instruction where performance of various tasks is an integral part of the learning experience. The second is simulation where the use of a simplified environment maximises the learning process. To the knowledge of the group, little work had been done in testing the effectiveness of teaching the use of the subject catalogue by means of an audio-tutorial combined with a sample or "miniature" subject catalogue in card form. In such a situation the student is able to assess his own success-rate in his search for information. The group was aware, of course, of programmed texts and textbooks but wished to combine some aspects of the short steps and structure of programmed texts with use of synchronised tape-slide material and the use of a selected number of subject catalogue cards. In a reference which was noticed after the project was well under way"Teaching library skills to college students" by Miriam Dudley there was a brief reference to a program, developed by Martha Hackman at California State College, Los Angeles, whereby a student can test himself in his knowledge of the use of the card catalogue, using a question sheet and a drawer of cards which was designed to demonstrate author, title and subject cards, filing rules and various points of library of Congress cataloguing. (Advances in Librarianship, Vol. 3, 1972). However, this program apparently lacked the tape-slide component which is regarded as an essential element in the Macquarie programs which were intended both for individual and group use.

1.1 Brief Chronology

As the project proceeded, several distinct phases became evident:

I. Phase I. Development of programs for individual use (practice catalogue program) and group use (tape/slide program) and development of an evaluation instrument. January-December, 1974.

II. Phase II. Development of a composite program (a tape/slide tutorial which included the use of the practice "miniature" catalogue). January-March, 1975.

III. Trials of the completed program to evaluate if program objectives had been achieved and if modifications to the program were needed. Analysis of results. March-April, 1975.

IV. Report writing. Results and conclusions. Suggestions for modifications and for implementation. Suggestions for further study. April-December, 1975.

2. PHASE I - DEVELOPMENT OF THE PROGRAM

The project began in January 1974 with Phase 1. It was carried out on a part-time basis by the following members of Macquarie University Library : the Librarian, the Deputy Librarian, the Reader Education Librarian, and at various times, three research assistants, one of whom developed the slides, one the scripts, and the other designed the evaluation instruments. Members of the Macquarie University Library staff who were experienced in the construction and use of the subject catalogue were called upon as advisers. Staff from the School of Education at the University acted as consultants in the fields of test construction and evaluation methods. In June 1974 and again in November, trials of the tape/slide program, the practice catalogue program and the evaluation tests were carried out.

At the end of 1974, the research assistant with a background in research methods and design, resigned and her place was taken by a senior research assistant with a background in teaching first year education students at Macquarie University and with strong interests in curriculum design and evaluation. This assistant became the project's coordinator and in the final stages worked full-time on the project. (Details of the project team's qualifications and duties are listed in Appendix A.) With this change in staff came a re-examination of the entire project. As a result, early in 1975 the project team decided to produce a composite program, combining the best elements of both the tape/slide and the practice catalogue programs (Phase II). Trials of the completed composite program were run through in April 1975 with first year university students. Feedback from the results of the trials will enable the program to be modified for continuing use within the range of reader education activities at Macquarie University.

2.1 Objectives of the Program (Phase I)

The following knowledge and skills were considered essential for using the Subject Catalogue efficiently.

At the end of the program, the student should :

1. Know when it is appropriate to use the Subject Catalogue rather than the Author-Title Catalogue.

2. Know the kinds of headings to be found in the Subject Catalogue.

3. Understand the arrangement of headings and sub-headings.

4. Be able to select most suitable headings for a particular purpose.

5. Be able to use the information on catalogue cards to select appropriate titles.

6. Be able to find these titles on the shelves and assess their appropriateness.

These objectives covered all the major steps in the entire information searching process. However, the difficulties of extending the coverage of an introductory program to include item number 6 were recognized, and this objective was discarded.

2.2 Program Development

Phase 1 of the project concentrated on two methods of teaching instruction where performance is an integral part of learning, and simulation of the real library situation. The project team intended that the programs could be used for small group teaching as well as by individuals. Therefore, it was decided to develop two programs :

A. An audio-tutorial consisting of a tape and a miniature catalogue for an individual student to work through at his own pace.

B. A tape/slide program for group instruction in a real library situation.

Based on advice from the School of Education it was predicted that the tape/slide program would be suitable for presenting information in a quick and efficient manner. It was further predicted that students who worked through the practice catalogue program would be better able to use the Subject Catalogue because of the practice element in the program.

The programs were intended to be as similar as possible, both in sequence and in content, to allow for critical evaluation and comparison. At the same time the programs had to make the best use of features unique to each, viz. the element of practice in the simulated program A, and visual presentation of information in the tape/slide program B. Separate development of programs for the different media by different research assistants in fact caused the programs to diverge from one another, however.

"Elections" was chosen as the theme to illustrate the steps in the information searching process. To demonstrate catalogue arrangement, other examples were included. In selection of content and more importantly in mode of presentation, a programmed booklet produced by the Brigham Young University [6] influenced script development. This may have produced a bias towards increasing emphasis on knowledge considered a prerequisite for effective use of the Subject Catalogue, rather than on the demonstration of steps involved in finding material on a particular topic through the Subject Catalogue.

Appropriate slides were developed for program B. They consisted of four main types :

1. Slides showing the location of the catalogue in the Library, and arrangement of cards in catalogue drawers.

2. Close-up shots of catalogue cards.

3. Graphics summarising information.

4. Cartoons to enliven or pinpoint information.

Without exception, the close-up shots of catalogue drawers were not successful and had to be replaced by sketches, even though this increased the difference between program A and program B. While this step is not important in itself, it does illustrate the way in which, as a result of a number of small decisions taken over a period of time, the two programs tended to diverge in sequence and content.

For the practice catalogue program, examples of cards or headings were reproduced for students to look up during the program. Suitable diversionary headings were also included in the practice catalogue. Again, some concern was expressed that these examples might be teaching something in addition to what was covered in the tape/slide program.

2.3 Selection of Equipment

After consultation with a lecturer in educational media in the School of Education and with the audio-visual staff in the Library, the Singer Caramate machine was selected for the program. The Singer Caramate was chosen instead of the Kodak Carousel projector and synchronised audio-cassette player as originally proposed in the research grant.

The Caramate projector is designed to accept Carousel trays of slides, synchronised with a standard 2 track monaural tape cassette. The visual program is synchronised to the audio program by recorded cue pulses at program points where slide advancement is desired. Audio is recorded on the lower track and advance pulses are placed on the upper track. Consequently, only one side of the tape can be used.

The record and playback model of the Caramate projector was used in the project. The Caramate is manufactured by the Education Systems Division of the Singer Company.

The advantages of the Caramate machine are :

1. It is relatively inexpensive.

2. It is neat, compact and very portable.

3. The controls are simple and it is possible to stop the program at any point and for any length of time without losing synchronisation, thus allowing for individual differences.

4. It fits easily into a study carrel and still leaves sufficient bench space for the student.

5. It has connections for a set of headphones and thus can be used in areas where others are studying without causing any noise or disturbance. As well, by using a splitter box up to 8 sets of headphones can be attached to the one Caramate.

6. It combines the Carousel and Cassette records into a neat functional whole and as the tape and slide equipment is built-in, there is less chance of damage.

7. It is compatible with the existing slide and tape equipment used in the Library.

8. It is possible to record commentary straight onto the Caramate and to pulse it for synchronisation with the slides later.

The disadvantages are :

1. Lamp life is short, approximately 16 hours, and lamps are expensive to replace.

2. It is not possible to rewind and go back over material as this puts the slides out of sequence.

3. It has a small screen so that only individuals or small groups can use it. For the purposes of the project, however, this point is not a disadvantage as the program is intended for individual use.

4. During the course of the project we became aware of differences between the Kodak Carousel projector and the Singer Caramate machine in presenting slides. Although the Caramate is stated to accept the 2 x 2 format, standard 2 x 2 slides suffer some cropping at the edges. There is apparently insufficient tolerance in the magnification to screen area and there can be some loss of image at the edges for which allowance should be made in making the slides. It is also important to avoid mixing plastic and cardboard mounts because the difference in thicknesses can adversely affect the maintenance of focussing of the lens.

2.4 Test Development

In order to assess the effectiveness of the programs, the following evaluation instruments were developed :

1. A test which covered objectives 1 - 3, i.e. the knowledge which students need to use the Subject Catalogue effectively. An objective or multiple choice test was considered suitable for this purpose.

2. A test which covered objectives 4 - 5, i e. students' ability to search for information on a particular topic in the Subject Catalogue. A performance test at the catalogue was considered necessary.

3. An attitude survey to gauge students' reactions to the program.

Despite general doubts about the difficulty of producing valid items for an objective test, a test of this kind was considered the most suitable way of checking if the programs taught a certain body of knowledge. The primary emphasis, however, was intended to be on the performance test at the Subject Catalogue.

With advice from library staff experienced in the use of the Subject Catalogue and staff from the School of Education, a 15 item objective test was developed (Appendix B). The items were both multiple choice and open-ended and covered the range of information presented in the programs.

Devising a performance test which assessed students' ability to search for information on a particular topic proved to be difficult. It was hard to find suitable topics that could be searched in the catalogue using the methods suggested in the programs. Some topics were simple to locate and required only a commonsense application of basic principles of alphabeting. Other topics required careful searching through a number of similar-looking headings or making mental jumps for which the program had not prepared students. Attempts to produce log books and work sheets for students to record their search were unsatisfactory and failed to produce any data that could be used. It proved a problem to devise a test sufficiently structured to provide a meaningful record

of the steps the student takes in his search, without providing too much direction or allowing the test to become fragmented and mechanistic.

An attitude scale was also prepared to obtain students' reactions to the programs.

2.5 Trials of the Programs

Volunteers from a first-year psychology course participated in a small-scale trial of the programs in June 1974. Fifteen students were given the tape/slide program and fifteen the practice catalogue program. Both groups took all the tests. A few students did the tests only. Feedback received from students suggested ways of improving the programs and for the most part these suggestions were incorporated. The programs were made more detailed and a printed summary, which the student might keep, was included. (See Appendix C for program script)

Results of the objective test revealed a number of difficulties with individual items, such as ambiguous instructions, and inadequate diversionary headings on multiple choice items. They also suggested areas where the programs themselves might be inadequate. A number of questions were answered correctly by almost all students, including those who had not done either program.

This finding prompted the decision to compare the results of an experienced and an inexperienced group, in order to eliminate those items which were either too easy or too difficult. Accordingly, the modified test was administered to two groups : the experienced group consisting of cataloguers from Macquarie University Library, and the inexperienced group of high school students. Feedback resulted in the withdrawal of some items and the addition of others.

The first trials of the program showed that the performance test was generally unsuccessful. Ambiguities in the instructions caused confusion to many students. It was found, too, that answers to the performance test were too general and vague to allow for meaningful assessment.

A new form of the attitude test was designed to yield more specific information. (See Appendices B, D, E for objective, performance, and attitude tests.)

As it was too close to end-of-year examinations to involve university students in the second trial in November 1974, fifty-five fifth form students from eight schools cooperating with Macquarie University in the teacher education program visited the library to take the programs and the tests. In all, 29 students did program A and tests, 21 did program B and tests, and 11 did the tests only.

Halfway through the series of visits, it became obvious yet again that the performance test would not yield meaningful information which could be used to improve programs, and that many items on the objective test failed to discriminate between those who had done the programs and those who had not. In addition the data could not be used with any confidence as students on the whole found the programs of some interest, but the tests dull.

The majority of the high school students rated the programs of some interest or higher and most thought the length and detail was about right. In the open-ended questions, students liked the clear presentation (14), humour (16), format (10), and disliked the repetition (11), length (9), and narrator's voice (7). Areas new to them were subheadings (14), Library of Congress Subject Headings List (8), and they asked for more information on locating books on the shelves (6).

2.6 Conclusion to Phase 1

A major weakness of Phase 1 was the failure to consider in any detail the level of knowledge and skills to be reached by students doing the programs. Because no clear specifications were developed at the beginning of the project, advice from consultants and feedback from students was not put to best use, since there was no yardstick against which to evaluate the information received.

With no guidelines against which to evaluate students' suggestions for the improvement in the programs, changes were made which shifted the emphasis further towards a detailed explanation of how the catalogue is organized, rather than how it can be used for a particular purpose. While the presentation became clearer, it went far beyond the beginning students' information needs and gave far more information than is used in any of the library's reader education programs.

Considerable time and effort had been invested in the development of the objective test. By the end of Phase 1, most members of the project team believed that the objective test was influencing the direction of the programs, rather than serving as a tool by which to evaluate their effectiveness. There was also general agreement that the project had become side-tracked, but the team were uncertain what measures to take to remedy the situation.

The project team agreed that the rationale of program development and evaluation should be thoroughly re-examined and that particular attention should be paid to the possibility of :

1. Combining the best elements of each program into a single program.

2. Orienting the program towards the information needs of a student new to the university.

3. Designing an evaluation instrument that assessed the program's success in teaching students to use the Subject Catalogue.

The results of the re-examination take the project into Phase II.

3. PHASE II - DEVELOPMENT OF A COMPOSITE PROGRAM

3.1 A Curriculum Development Approach

Early in 1975 a decision was made to take full advantage of systematic development, evaluation and modification of program components by the adoption of a curriculum planning model similar to that used in many educational projects. The program development plan used (see Table 3) was produced independently but is very similar to that used by course planning teams at the Open University in Great Britain (Lewis) [7,8,9,10].

The utilisation of a curriculum model was crucial in the program's evolution and enabled program work to proceed efficiently and effectively. "Formative" and "summative" evaluation (cf. Bloom[11,12]) was an important element in the curriculum approach.

Formative evaluation refers to evaluation undertaken during the process of curriculum construction and has the aim of revealing defects in project components that stand in need of correction. This corresponds to the "developmental testing" used by the Open University in the construction of its courses. In this sense, then, formative evaluation was used in this project to determine if each component was feasible (in terms of time, money, equipment, staffing), clear and interesting. Formative evaluation was also used to ensure that the aims and objectives of the program and the tests were being achieved before that component was finalized and incorporated into the program.

On the other hand "summative" evaluation refers to the project team's judgement of the effectiveness of the completed program in achieving its aims and objectives.

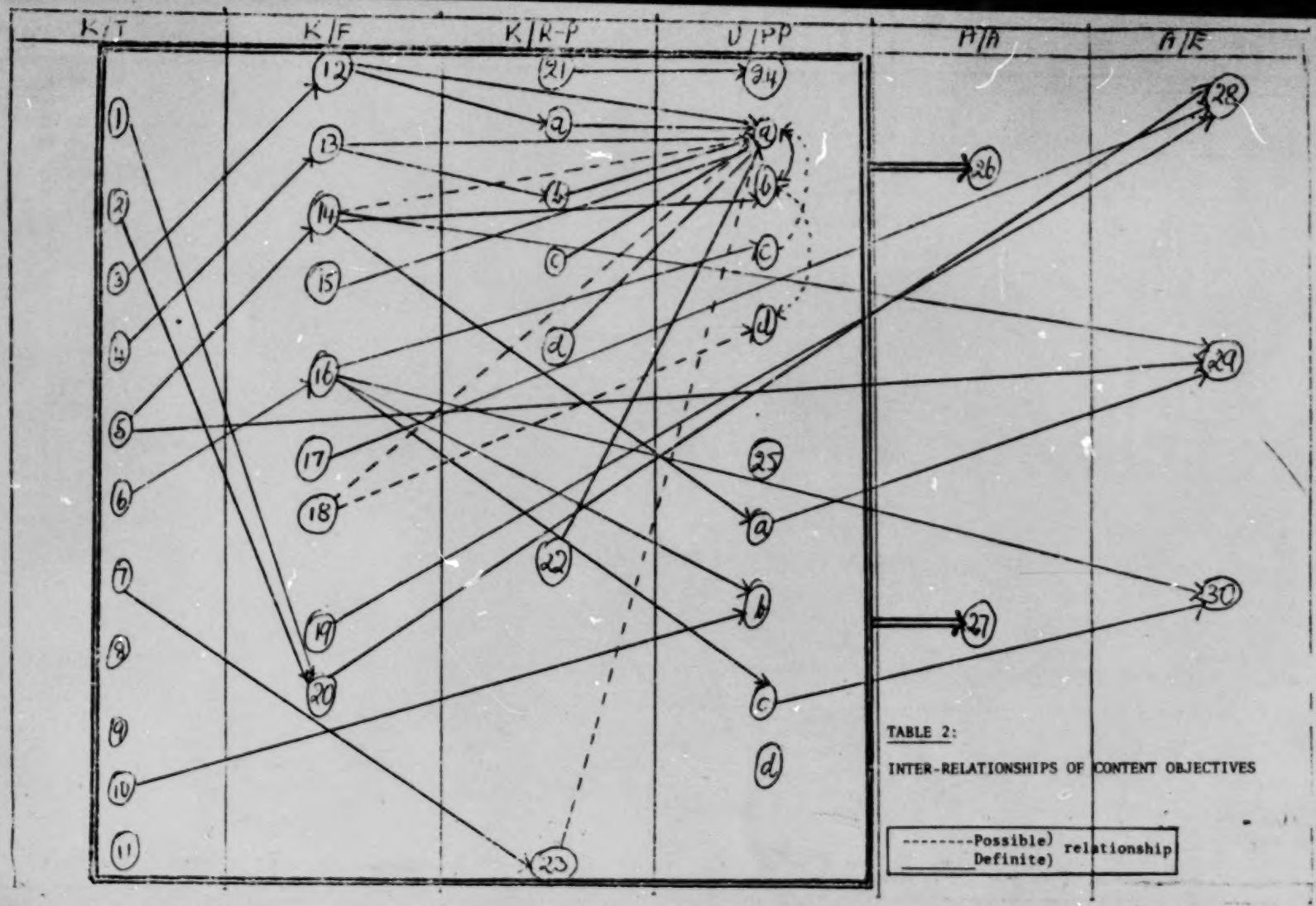
3.2 Re-examination of Aims and Objectives

The failure of the project team to reach a clear consensus on the aims of the program in Phase I has already been noted. Early in 1975 it was resolved to produce a written statement on the program's aims, objectives, and method of presentation to give a precise indication of how the program was to be developed. Team members were asked to note what they considered should be the program's aims and objectives, using the experience of 1974. Each member was also asked to indicate some overall guidelines for the way in which the program should be presented.

Results of this exercise were used to produce a set of methodological aims and content aims and objectives. The content objectives were set out in a table of specifications based on Bloom [13] (see Table 1). At a meeting of all team members, consensus was reached on the program's aims and objectives, and a priority rating was assigned to the content objectives. Objectives were rated on a scale from one (high) to five (low). The project team also decided upon the interrelationships of the content objectives. The table of interrelationships (Table 2) indicates with arrows which elements must be introduced before others.

Behavioural Objectives / Subject Matter Elements	A. Knowledge of Terms	B. Knowledge of Facts (or Facts about Something)	C. Knowledge of Rules/Principles	D. Skill in Using Relevant Processes and Procedures	E. Ability to make Applications	F. Ability to Evaluate
	1. Subject Catalogue 2. Author/Title Catalogue 3. Subject Headings 4. Subject Subheadings 5. L.C. List 6. Catalogue Card I 7. See Reference 8. Tracing 9. Guide Card 10. Call Number 11. Classification	12. Kinds of Subject Headings I 13. Kinds of Subdivisions I 14. L.C. List IV 15. Location of Subject Catalogue I 16. Information contained on Catalogue Cards I 17. That the Subject Catalogue does not cover III-IV 18. Librarian is there to help including location of the Information Desk II 19. Scope and Purpose of the Subject Catalogue I 20. Distinction between Subject Catalogue and Author/Title Catalogue I	21. Filing Rules a) Order of Subject Headings (not to be included with filing rules) I-II b) Order of Subject Subheadings I-II c) Word by word II-III d) Subheading - Subdivisions IV-VI 22. Specific Entry I 23. Purpose of 'See' References II	24. Practice in use of the Catalogue a) Looking up topic I b) Using L.C. List III c) Using Tracings V d) Finding new/more Subject Descriptors I 25. Practice in Search Strategies a) Use of L.C.List III b) Determination of Browsing Call Numbers II c) Selection of Relevant Titles using information on Catalogue cards I d) Use of Broader Term II	26. Put knowledge into practice in new situations (see General Aims) I 27. Methodical use of all previous knowledge II	28. Determine how useful the Subject Catalogue is in a particular instance I 29. Determine how useful the L.C. List is in a particular instance III 30. Determine how useful a given reference is I PRIORITY RATING: (I: HIGH TO V: LOW)

TABLE I: TABLE OF SPECIFICATIONS (PROGRAM OBJECTIVES)


K/T
K/F
K/R-P
U/PP
A/A
A/E
TABLE 2:
INTER-RELATIONSHIPS OF CONTENT OBJECTIVES
--------Possible) relationship
_____Definite)

PROGRAM DEVELOPMENT.

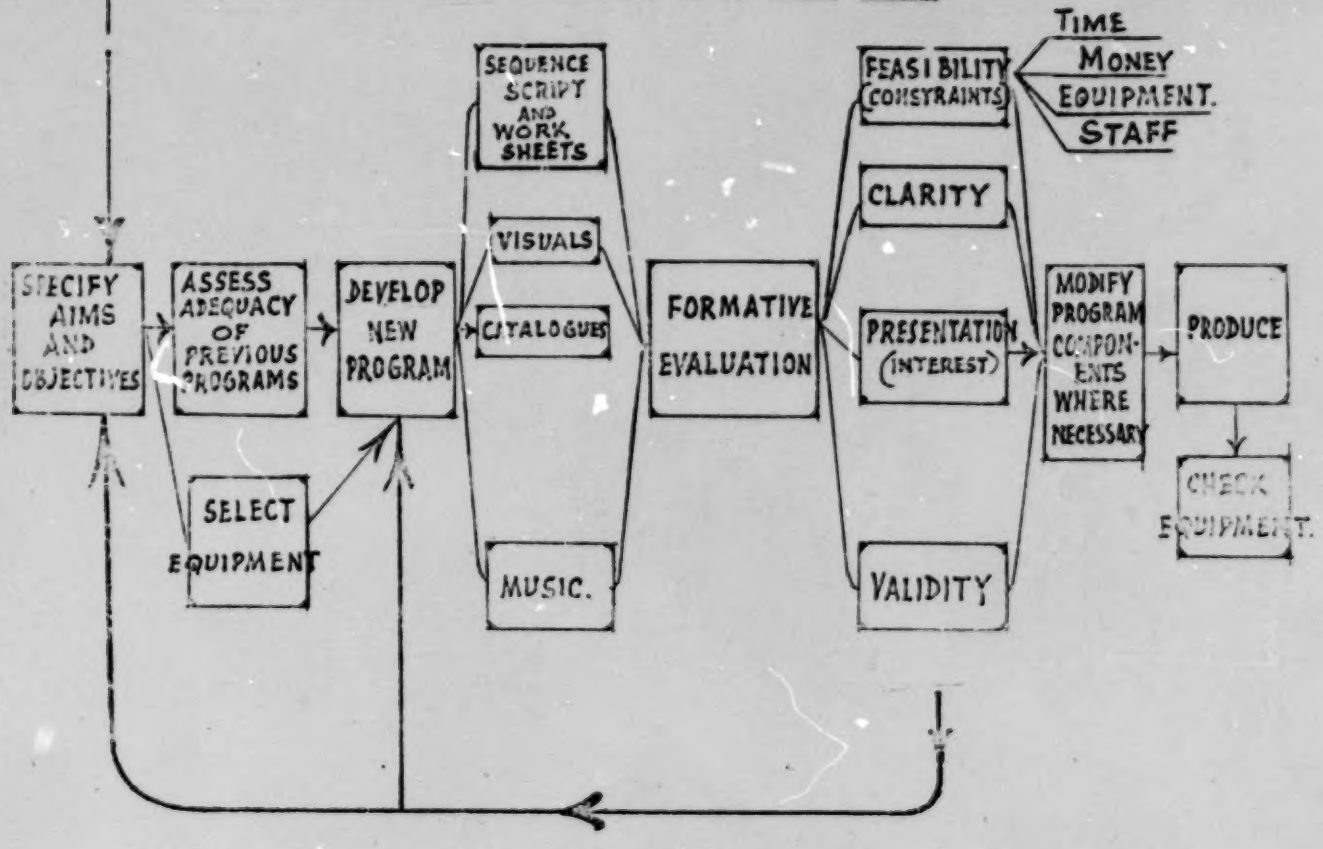


TABLE 3

3.21 Aims of the program

The aims of the program as decided by consensus of the team were:

1. To provide the student with sufficient information so that he/she knows when to use the Subject Catalogue and when to use the Author and Title Catalogue.

2. To demonstrate how to define a topic.

3. To enable the student to select the subject headings that describe that topic.

4. To introduce the student to ways in which information on catalogue cards can be used to select references that may be pertinent to a topic.

3.22 Methodological Aims

The program team decided that the program should:

1. use logically connected small learning steps

2. use the principles of active learning

3. provide continuity

4. provide the student with the opportunity of using a simulated subject catalogue as part of the program.

5. ensure that the student is able to work through the program at his own pace.

6. take no longer than 30 minutes.

3.3 The Decision to Develop a Composite Program

The educational advantages of producing a composite program (which incorporated the best elements of the practice catalogue for individual use with the tape/slide program for group use) were noted at the end of Phase I in 1974. From the experience gained in 1974, it was clear that the production of an interesting and suitable program could very easily be distorted by the necessity of keeping two different programs as closely parallel to one another as possible. The basic goal was now seen to be the development of the best possible program where all components reinforce and enhance one another. Therefore, the project team agreed to concentrate their efforts on developing an audio tutorial program intended for individual use. It was recognised that this program would not be suitable for some instructional situations and would need to be modified for use at the Subject Catalogue and by groups of students.

After consultation with two members of the School of Education who have expert knowledge of curriculum development the project team agreed that the objectives reached by consensus early in 1975 could be best attained if the program incorporated the following features:

1. it should be undertaken individually with information presented audio-visually on a machine that could be stopped or started when the student wished.

2. wherever possible, during the program, the student should gain practice in using the catalogue by looking up entries in a small practice catalogue.

3. after each small learning step the student should be able to stop the machine, test himself on the information just presented and then receive immediate feedback when

the machine is turned on again.

4. the student should record his responses on a worksheet which also contains a summary of the major steps in the program and can be kept by the student for future use.

3.4 Program Development

The flow chart (Table 3) summarises the steps involved in program development.

3.41 Script and Summary Worksheet

The table of interrelationships (Table 2) was used as a guideline for the sequencing of the script. A flow chart was created to show in parallel arrangement the steps which a user would typically take in searching for information in the Subject Catalogue. To illustrate each of the steps in the flow chart it was proposed to follow through one topic in order to achieve continuity in the program.(Table 4)

The script underwent three drafts. At each stage the new draft was piloted with University and Library staff and with students for whom the program was intended. At the same time, the summary worksheet which was to accompany the program was developed (See Appendix F). During their development, the script and the summary worksheet were constantly evaluated in terms of feasibility, clarity, presentation and validity.

3.42 Slides

The artist on the project team developed the following types of slides:

1. photographs showing the location of the catalogues and the directory boards in the Library.

2. cartoons illustrating the process of defining the topic and selecting the subject heading that most precisely defines the topic. A great deal of creative effort was involved in working out a series of cartoons that put concepts into an appropriate setting e.g. broad versus specific subject terms.

3. Diagrammatic slides to illustrate relationships.

4. Guideline slides which indicated the guidelines and exercises to be dealt with on the summary worksheet.

5. Answer slides which gave pictures of catalogue cards, and covers or title pages of books.

From sketches to slides all visuals were piloted with staff and students, separately at first and then with drafts of the script, summary worksheet and other components as they became available.

3.43 Selection of Equipment

Reasons for the selection of the Caramate projector have been given in section 2.3 and 3.3.

STEPS	WORKSHEET TASK
(A) Introduce Topics (best would be "Elections")	
(B) Which Catalogue should be used? (i) Location S/C & A/T/C (ii) Scope of each - distinguish (iii) Limitations of each Summarize (B) - give a test →	Test (forced choice between A/T/C & S/C)
← Answers 1st Test	
(C) Defining the Subject Specific Entry Look up Summarize (C) →	Test (which of the following heading most closely gets a given topic)
← Answers 2nd Test	
(D) Aids to Defining Subject (i) L.C. List (II) Information Desk Summarize (D) →	Exercise on L.C. List
← Answers to Exercise	
(E) Organization of the Subject Catalogue (i) Kinds of Subject headings (ii) Kinds of subdivisions (iii) Filing rules (iv) 'See References Summarize (E) →	Test (Look up a subject heading with subdivision)
← Answers to 3rd Test	
(F) Determining Relevant References (i) Information on catalogue cards. (ii) Selecting titles (iii) Browsing call numbers - reference to the shelves Summarize (F) →	Test (Looking at cards in mini Catalogues pick out the most "relevant" references)
← Answers to 4th Test	
Overall Summary - use the Worksheet in future	

TABLE 4: STEPS IN AN INFORMATION SEARCH IN THE SUBJECT CATALOGUE

3.44 The Practice Catalogue

Catalogue cards were prepared for the practice catalogue which was to accompany the tape/slide presentation. They included not only those cards and headings mentioned in the script, but additional cards as well to provide a suitable context for the sample cards.

3.5 Development of Evaluation Instruments

At the outset of Phase II a meeting of the project team agreed upon the following aims for the evaluation instruments or tests:

1. The tests should enable the project team to evaluate the program's effectiveness in achieving the stated aims and objectives as set out in the table of specifications.

2. The tests performed at the Subject Catalogue should not only test the program's effectiveness but might also serve as a teaching function by alerting students to aspects of the Subject Catalogue that are impossible to teach in isolation from it.

3. The tests should indicate only what is to be done, not how it is to be done.

4. The tests should be directly linked with the four learning steps incorporated into the program.

5. Students' reactions to the program and their opinions of its usefulness should by systematically collected.

With the help of a lecturer in measurement and evaluation in the School of Education the following instruments were developed:

1. A background information sheet which checks whether the group doing the program and the control group are equivalent on relevant variables. (See Appendix G).

2. A "reaction to the program" sheet which assesses whether students found the program useful and invites suggestions for improving it. (See Appendix H).

3. Tasks which test if students could recognise when to use the Author and Title Catalogue and when to use the Subject Catalogue (Step 1 in the program). (See Appendix I).

4. Six parallel versions of a test to be performed at the Subject Catalogue (See Appendix J). The tests were intended to measure a series of skills in the use of the Subject Catalogue. The topics were of a general nature (See Appendix K) and were selected from a number of suggestions made by students during library orientation in February. The tests were designed to test how effective the program was in meeting Aim 1 "to enable the student to use the Subject Catalogue effectively, i.e. to make the necessary connections between subject headings and the books considered relevant to the student's search".

   This involved : Step 2 Defining the topic

   Step 3 Looking up a subject heading

   Step 4 Selecting relevant publications

The final part of the performance test asked students to comment on the adequacy of the tests.

Members of the team piloted test items with students for clarity of instructions. Library staff were also asked to do the performance tests and comment on inadequacies.

It became evident that it would not be feasible in the time available, to develop an objective test which could be performed in isolation from the Subject Catalogue. There were also doubts about the means to be employed to test performance in such a situation. This aspect of the program was, therefore, not pursued although it may be taken up again as part of the Reader Education activities at Macquarie University.

3.6 The Evaluation and Implementation Plan

Planning on how and when the program was to be trialled was under consideration from the start of Phase II. As the program was intended as an introductory one for new students, it was agreed that ideally it should be presented as early as possible in the new academic year. When staff in charge of the first year education course agreed to incorporate the program into the "library skills" component of the course, this determined April as the date for the trials.

The evaluation and implementation plan finally decided upon in cooperation with academic staff is presented in Table 5.

This plan has two parts:

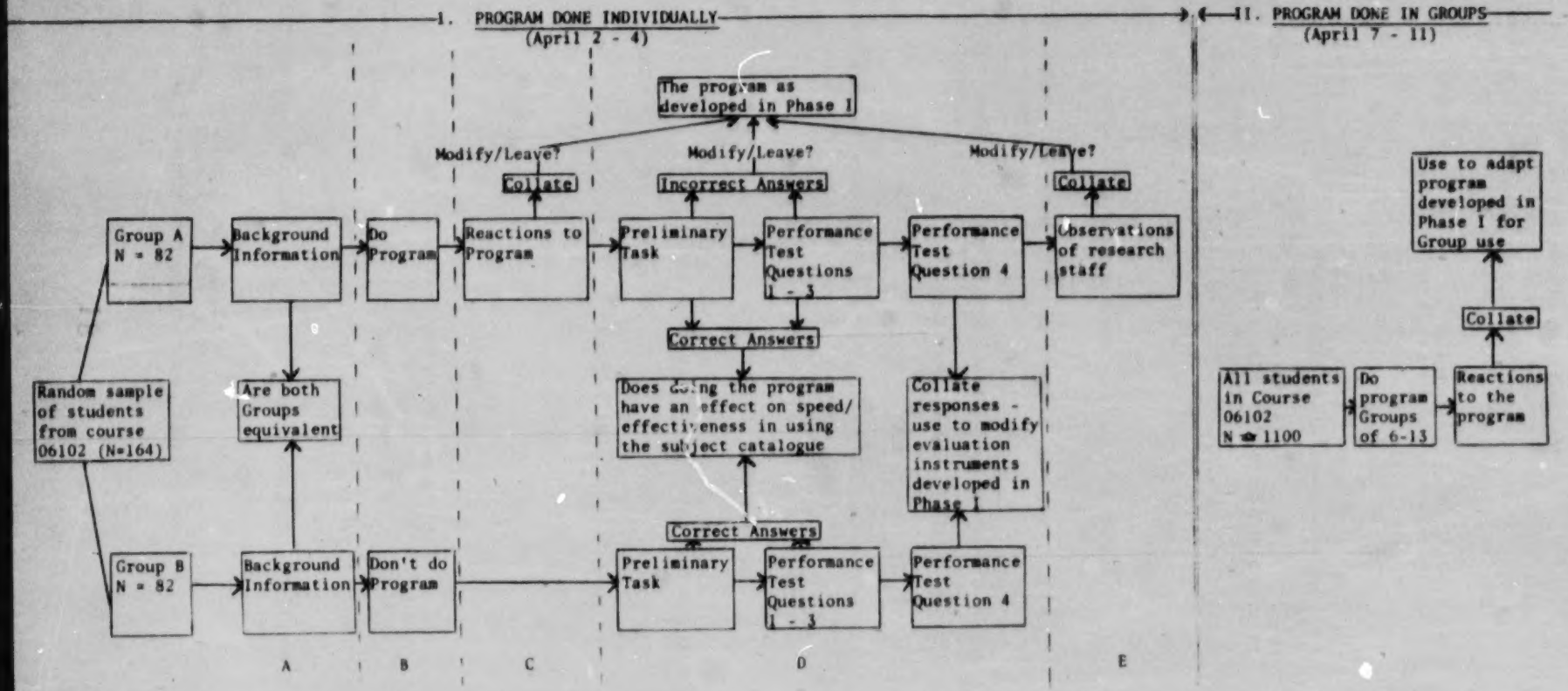
Part 1. - Individual session where the program was done by individual students in tutorial time.

Part 2. - Group session where the program was viewed by all members of a tutorial group in tutorial time. Students who did the program in the individual stage were not required to attend this session. The group sessions were introduced because the staff in the School of Education believed that (even though the program was intended for individual use) it would benefit all students. It was administratively impossible for all 900 remaining students to do the program individually. To get some feedback on the attitude of students to the presentation of the program in this fashion and to gather suggestions on which sections would need to be modified for group use, it was decided to ask students to fill in the "Reactions to the Program" sheet when they had viewed the program. For the purposes of project evaluation, however, the results of the individual stage were most crucial.

Details of the evaluation and implementation plan for the individual stage were drawn up.

1. A random sample to be divided by chance into two equal groups: Group A and Group B.

2. Initially both groups to fill out a "Background Information Sheet". This sheet was designed to gather information on background variables such as student status, age, previous work experience in libraries or related occupations, previous experience in using libraries or with formal library education programs. It would show if there were any marked variations in these factors between the two groups.



29 TABLE 5: EVALUATION OF THE PROGRAM

3. Group A to do the Subject Catalogue program, fill in the Reactions Sheet, complete the preliminary task which tested if students knew when to use the Subject Catalogue and finally take one of the six performance tests.

4. Group B simply to complete the preliminary task and then to take one of the performance tests.

3.61 Sampling for the Individual Trials

In terms of the available space, equipment, time and staff, it was possible to administer the program and the tests to only 12 students at a time. On this basis, 14 groups of 12 students each (i.e. 168 students) was the maximum number that could be handled efficiently within the time for the tutorials. As it was not possible to assemble or select randomly from the 1,100 students as a whole, a two-stage sampling plan was devised.

1. 28 groups were selected randomly from the 104 tutorial groups.

2. 6 students were selected randomly from each of the 28 tutorial groups.

This plan meant that no more than 12 students would be in the Library in any one hour. Since there were six copies, Group A would do the program while Group B did the tests. By the time Group A finished the program, Group B would have completed the tests and so there would be few administrative problems at the Subject Catalogue where the tests took place.

4. RESULTS OF THE TRIALS OF THE PROGRAM

The program was trialled in two steps: with individuals during the fifth week of first term (2nd-4th April, 1975) and with small groups the following week (7th-11th April). Careful and detailed planning by the project coordinator and thorough explanation of rationale and procedures at the briefing sessions of all the personnel involved meant that the program was implemented smoothly and efficiently. Wastage of data was minimal (164 individual tests) and the program and tests were presented to the students in an objective manner.

The results of the individual sessions of Group A and Group B are presented first. Results of the trials with tutorial groups are given in a separate section.

4.1 Background Information of Group A and Group B

Results of data obtained from the Background Information Sheet indicate that the two groups may be assumed equal in terms of factors identified. (See Table 6).

Item 6 (students' confidence in their ability to use the Subject Catalogue) was used later to examine their actual ability as shown in the performance test (See Section 4.4).

The questions relating to library experience (Item 5) were included as a precaution. In the event that any of the participants had experience relevant to use of the Subject Catalogue, it was intended to exclude their data from the results. This was not, in fact, necessary.

Responses to Item 7 (asking whether students would benefit from doing a program on the Subject Catalogue) indicate a positive attitude towards reader education programs of this type.

		Group A	Group B
1. Status	Full Time	74	73
	Part Time	8	9
	External	0	0
2. Status	First Year	80	77
	Later Year	2	5
3. Age	(a) Under 20	60	59
	(b) 20 - 25	14	9
	(c) Over 25	8	14
4. Previous Work in Libraries or related occupations		5	8
5. Previous Experience in Use of Libraries			
	(a) School	53	50
	(b) Community	71	69
	(c) Other Uni/C.A.E.	21	23
	(d) Technical College	3	6
6. Ability to Use the Library's Subject Catalogue			
	(a) Very able	3	3
	(b) Quite able	13	9
	(c) Get by	43	52
	(d) Some trouble	15	15
	(e) Lot of trouble	8	3
7. Benefit from ½ hr. Program			
	(a) Yes	71	78
	(b) No (+ no response)	7(+4)	3(+1)
8. Previous Program on Library Use			
	(a) Orientation	25	18
	(b) Climatology course	0	1
	(c) Handouts	1	0
	(d) Reader Services Librarian's lecture	0	1
	(e) Other	0	1

TABLE 6: BACKGROUND INFORMATION OF GROUP A AND GROUP B

However, Item 8 (students' previous experience of programs on library use) indicate that a large proportion of students (almost 75%) do not in fact use them. This raises important questions for further study which are, however, outside the scope of this investigation.

4.2 Reactions to the Program

The purpose of this survey was to identify if any areas of the program need modification. The results are summarised in Table 7. Typical responses to the open ended Question 1 on the clarity of the program were "all clear" or "very clear" but 13 of the 82 students made observations of the following type:

1. More examples in the sections defining the topic. (Section 2)

2. Confusion about what exactly was required in Section 3 (Looking up a subject heading).

3. More emphasis on the LC List.

4. More time explaining the make-up and logic of the call number as this is critical to locating books on the shelves.

5. Expand Step 4 (selecting relevant publications) and explain exactly how tracings can be useful.

6. Spend more time explaining the answers to exercises (relating to Section 4).

Although they were not asked to suggest further programs a small number of students said they would like programs on:
a. How to use the serial indexes and locate journal articles;
b. The A/V Section of the Library.

Question 2 called upon students to rate how satisfactory each program component had been and to make any suggestions for improvement which they thought necessary. The consistent 80+% response in the Very Satisfactory category indicates very strong student support for the program (especially when one considers the strong tendency to centralize responses in items of this type.).

Criticisms and suggestions for improvement (Question 2)(some of which are outside the scope of the program) included the following:

A. The slides: "Some went too quickly"; "Too simple"; "Make diagrams more interesting"; "some were unnecessary - e.g. the steps"; "show a shelf of books to illustrate how call numbers are ordered"; "The arrows on the cards in Step 4 are not accurate".

B. Commentary: "Explain sa, x, xx in the LC List in more detail"; "In Step 4 the heading bibliographies is used but the speaker talks of notes"; "not such long breaks in the commentary"; "Too elementary"; "Call number is not explained clearly enough"; "Could be shorter".

C. Summary Worksheet: "The question on looking up foreign relations is not clear"; "more exercises for more practice"; "Exercise 4 is irrelevant because it is hard for us to evaluate if a book is useful if we haven't

QUESTION	VERY SATISFACTORY	SATISFACTORY	UNSATISFACTORY	N.TOT
2. a. Slides	66 (82.5%)	14 (17.5%)	0 (0%)	80
b. Commentary	65 (81.25%)	15 (18.75%)	0 (0%)	80
c. Summary Worksheet	64 (80.0%)	16 (20.0%)	0 (0%)	80
d. Sequencing	65 (81.25%)	15 (18.75%)	0 (0%)	80

3. How much of the Program was new to you?	ALL	PART	NONE	N.TOT
	15 (18.75%)	60 (75.0%)	5 (6.25%)	80

4. Would you recommend this program to your friends as being useful?	YES	NO	N.TOT
	78 (97.5%)	2 (2.5%)	80

AVERAGE TIME TAKEN TO DO PROGRAM IN AN INDIVIDUAL SITTING = 31.5 M

TABLE 7: REACTIONS TO THE PROGRAM OF GROUP A

heard of or read on a subject"; "searching problems could have been more difficult", "should have been more detailed".

D. Sequencing: "Jumped about too much from one section of the catalogue to another - I became confused about main headings and subheadings and all the different main headings", "Guideline C should precede Guideline B".

The results of Question 3 (asking how much of the program was new to students) may not be so reliable. There is a strong tendency to centralize responses in items of this type.

The extraordinarily high number of responses in the "Yes" category of Item 4 is most encouraging.

4.3 The Preliminary Task and the Performance Tests

The preliminary task (Appendix I) and the first three tasks of each of the six performance tests (for sample, see Appendix J) were keyed to the steps and exercises in the program. The results can be used in two ways (see Table 5):

1. Comparison of the correct responses of Group A with Group B in each successive task gives an indication of how effective the program is in helping students to select the Subject Catalogue when appropriate and in helping them to use that catalogue when appropriate and in helping them to use that catalogue more effectively and more rapidly.

2. Analysis of the incorrect responses of Group A gives some indication of sections of the program which need to be modified.

4.31 Analysis of the Correct Responses of Group A and Group B

4.311 The Preliminary Task: (Skill tested: Choosing appropriate catalogue)

The results of this task are set out in Table 8. The frequency with which each group got each of the give questions in this task correct has been tabulated and a mean score out of 5 and a mean time taken to get all items correct calculated. A "t test" was carried out on scores and times to determine if the difference between means was significant. A significance level of P.05 was used in all tests. In all items except (iv), Group A gave more correct answers than Group B. The "t test" on the scores of Groups A and B indicates that overall performance on this task was significantly better for Group A than for Group B ($P < .01$) thereby suggesting that doing the program does help students to be able to select the appropriate catalogue more effectively.

Both groups took the same time on average to carry out this task (1.75 minutes). This is not surprising as the task involved making a decision rather than looking in the catalogues.

	NUMBER IN GROUP	ITEM CORRECT					$\bar{X}$ SCORE /5	SIGNIFICANT DIFFERENCE (t)	$\bar{X}$ TIME (MINUTES)	SIGNIFICANT DIFFERENCE
		(i)	(ii)	(iii)	(iv)	(v)				
GROUP A	82	82	42	73	73	82	4.2	Yes	1.75	No
GROUP B	82	77	32	58	80	70	3.8	$P < .01$	1.75	

TABLE 8: RESULTS OF THE PRELIMINARY TASK (GROUP A AND GROUP B)

4.312 Task 1 (Skill tested: Determining the best heading)

The performance of Groups A and B on this task for each of the six topics is set out in Table 9. The six topics are listed as Appendix K.

In two topics, the correct answer was a main heading without subdivision. For the other topics, which required a subdivision as well as a main heading, the data was processed in two stages:

1. Main heading only correct. 2. Main heading and subdivision correct.

X^2 were used to test significant differences between the performance of Group A and Group B on each topic.

Times taken to reach a correct answer were estimated for each topic and a "t test" used to establish whether there was a significant difference between groups. (Wrong answers were excluded because it was thought that there was little value in determining how long it took to reach a wrong answer.)

In five out of six topics Group A found the correct main subject heading more frequently than Group B with differences diminishing with the obviousness of the subject heading and with the number of distractors around the correct subject heading in the catalogue. Only in two instances, however, is this difference actually significant.

In three out of the four topics which required both a main heading and a subdivision for a correct answer, Group A performed significantly better than Group B.

The almost equivalent performance between Groups A and B on the "Cars" topic is puzzling but may be due to the fact that once the main heading was located, the subdivision "Maintenance and Repair"is easy to find as there are few distractors in the catalogue. On an average, Group A consistently found correct answers more quickly than Group B although it was only when students were required to produce both a main heading and a subdivision that Group A performed significantly faster than Group B. (Again the "Cars" topic is an exception where the difference is in favour of A but is not significant.)

Because the sample for each of the six topics is small, and because it is not valid to add the scores across all tests as they do not measure exactly the same skills, the conclusions can only be tentative. It does appear, however, that students who do the program are more likely to find the correct subject heading used in Macquarie University Library's Subject Catalogue to describe a particular topic than those who have not done the program. This is especially so if the subject heading consists of a main heading and a subheading and, when this is the case, students who do the program are likely to produce the heading more quickly.

How students derived headings in Task 1.

After completing Task 1, students were asked to identify the sources they used to find the subject headings. Table 10 gives a picture of the sources used by students in both groups to derive their headings for each topic. Table 11 ignores the different demands of topics and summarises overall use of different sources. Whether the use of any particular source produced a correct answer or not has been

TOPIC	NO. IN GROUP		MAIN SUBJECT HEADING CORRECT		SIGNIFICANT DIFFERENCE	AVERAGE TIME TAKEN TO GET MAIN SUBJECT HEADING CORRECT (MINUTES)		SIGNIFICANT DIFFERENCE	MAIN HEADING AND SUBDIVISION CORRECT		SIGNIFICANT DIFFERENCE	AVERAGE TIME TAKEN TO GET MAIN HEADING AND SUBDIVISION CORRECT (MINUTES)		SIGNIFICANT DIFFERENCE
	A	B	A	B	(X^2)	A	B	(t)	A	B	(X^2)	A	B	(t)
Topic 1	14	14	11	7	No	4.2	6.0	Yes ($P \leq .01$)	9	2	Yes ($P \leq .05$)	4.2	6.0	Yes $P \leq .05$)
Topic 2	13	13	10	4	Yes ($P \leq .05$)	4.1	5.25	No	7	1	Yes ($P \leq .05$)	3.7	11.0	Yes ($P \leq .005$)
Topic 3	13	13	11	10	No	4.7	5.3	No	9	10	No	5.1	5.3	No
Topic 4	14	14	9	11	No	4.2	4.9	No						
Topic 5	14	14	12	6	Yes ($P \leq .05$)	4.25	4.83	No	7	0	Yes ($P \leq .005$)	4.0	N/A	Yes
Topic 6	14	14	14	10	No	3.2	3.4	No						

TABLE 9: RESULTS OF TASK 1 OF THE PERFORMANCE TEST (GROUP A AND GROUP B)

	Topic 1		Topic 2		Topic 3		Topic 4		Topic 5		Topic 6	
	A14	B14	A13	B13	A13	B13	A14	B14	A14	B14	A14	B14
A. Commonsense	7	6	8	12	6	8	11	11	12	7	7	7
B. Librarian	1	0	1	1	0	0	0	0	1	0	0	2
C. L.C. List	1	0	3	0	2	1	2	1	1	2	5	0
D. Subject Cat.	13	12	13	11	13	13	13	11	12	12	13	14
E. Other	0	0	1	0	0	0	0	0	0	0	0	0
Heading Confirmed	8	9	8	12	13	11	12	12	12	10	10	11
Heading Not Confirmed	6	5	5	1	0	2	2	2	2	4	4	3

TABLE 10: SOURCES USED TO DERIVE HEADINGS FOR EACH TOPIC (GROUP A AND GROUP B)

TOTAL FREQUENCIES (SOURCE X GROUP)

	GROUP A (N = 82)	GROUP B (N = 82)
CONCORDANCE	51	51
LIBRARIAN	3	3
LC LIST	14	4
SUBJECT CATALOGUE	77	73
OTHER	1	0

Note: Correct use of each source was not computed.

TABLE 11: TOTAL SOURCES USED TO DERIVE HEADINGS (GROUP A AND GROUP B)

ignored. All that was desired was some indication of whether or not doing the program encouraged students to use all the sources of help which the Library provides. Only in the case of the Library of Congress Subject Headings List does the program appear to have had any affect in this regard. Fourteen students from Group A consulted the List. It was already apparent from comments of students who took earlier pilot programs, and from reactions to this program, that the Library of Congress Subject Headings List is something that few students are aware of. Only 4 in Group B, the group that did not do the program, said they had used it. The responses to the second part of the question, asking the order of sources used, are not presented as they were intermittent and often confusing.

4.313 Task 2 (Skill tested: Alphabetical arrangement of the catalogue; location of classification numbers on the Library shelves).

The performance, by topic, of Groups A and B on each of the three items which made up this task is set out in Table 12. A X^2 was used to test for significant differences between the performance of A and B on each item for each topic.

Item i. of Task 2 tests students' ability to look up a subject heading and a subheading in the catalogue. Group A gave more correct responses than Group B in three topics, and an equal number in the other three. Group A performed significantly better than Group B for only one topic.

Items ii. and iii. of Task 2 test students' ability to interpret information on catalogue cards and to relate this to the total information searching process. In Item ii, Group A gave more correct responses than Group B in four topics and an equal number in the case of Cars. However, Group B exceeded Group A in correct responses on the Beer topic. Although this is not significant, it is the only occasion on which B's score is greater than A's. In Item iii, Group A gave more correct responses than Group B in four topics.

It appears that, while the program does not necessarily ensure that students will be able to locate a given subject heading and subheading more effectively in the catalogue, there is a trend in this direction in the results.

4.314 Task 3 (Skills tested: Interpreting information on the catalogue card; evaluating the relevance of publications from the catalogue; selecting classification numbers for browsing)

As already reported, the performance tests had not been satisfactorily tested and evaluated beforehand. Because the trials could not be delayed, the performance tests eventually developed immediately prior to the trials, were used. They had been tested at the catalogue by the research assistant and other members of the research team, who were aware of their possible defects.

An attempt was made to analyse the results. A X^2, was used to test for significant differences between the performances of groups A and B on each item for each topic, and to test for a difference between the mean time taken to get all answers correct.

TOPIC	NO. IN GROUP		NO. WITH ITEM (i) CORRECT		SIGNIFICANT DIFFERENCE	NO. WITH ITEM (ii) CORRECT		SIGNIFICANT DIFFERENCE	NO. WITH ITEM (iii) CORRECT		SIGNIFICANT DIFFERENCE
	A	B	A	B	(X^2)	A	B	(X^2)	A	B	(X^2)
Topic 1	14	14	9	2	Yes ($P<.05$)	14	13	No	14	12	No
Topic 2	13	13	13	13	No	11	12	No	13	13	No
Topic 3	12	13	11	12	No	12	13	No	12	12	No
Topic 4	14	14	14	12	No	14	11	No	14	12	No
Topic 5	14	14	14	14	No	14	9	No	14	11	No
Topic 6	14	14	14	11	No	14	10	No	14	13	No

TABLE 12: RESULTS OF TASK 2 OF THE PERFORMANCE TEST (GROUP A AND GROUP B)

However, this produced insufficient data in some topics and the results overall were inconclusive:

For items (i) and (iii) none of the differences were significant; for item (ii) Group A had more correct answers than Group B in only two topics and the difference was significant in only one.

For item (iv) (browsing) A had more correct answers than B in five of the six topics and in the remaining topic the groups are equal. In four topics the differences in favour of A are significant. However, it should be noted that some students in Group B could have had this item wrong not because they are unable to browse but because they were not sure of the meaning of the word "browse" in terms of its place in a literature search via the subject catalogue.

For all items, there is a clear difference in favour of group A in the average time taken to get correct answers.

In summary, the program does seem to have some effect in introducing students to the concept of browsing and definitely influences the speed with which a student is able to interpret the information on the catalogue card to help decide if a publication is likely to be useful for a particular purpose.

Because the team was aware of the pressure that left insufficient time available for the development of the tests, they believe that the disappointing results are due to lack of clarity in the tests rather than in the program. Further comments (which are speculative) are made in the section on analysis of incorrect answers (4.32). As in earlier versions of the tests, it seemed that students could have used criteria other than the clues on the catalogue cards to determine relevancy and it was impossible to score the task in any meaningful way.

4.315 Task 4 (Student comments on the performance tests)

Task 4 of each performance test called upon students to make suggestions as to how they felt the tests which they had just done could be improved. For each topic there were many favourable responses indicating that the students found the performance tests effective. Group A's comments were slightly more favourable then Group B's. Some comments such as "I would like to know if my answers were correct" suggest that the students saw the performance tests as a teaching device. Group B's responses indicate that students saw the tests' potential as a diagnostic device ("effective way to test students' knowledge of the Library") as well as a learning device. The performance tests were originally designed to test the effectiveness of the program. However, the above comments suggest the possibility of retaining them with modifications (1) for diagnostic purposes so that students could quickly see if they needed to take the Subject Catalogue program, or (2) as a task to reinforce what they had learnt in the audio-tutorial.

Many of the students' responses have implications for improving both the program and the tests, e.g. "Headings 'Moving picture - History' and 'Moving picture industry - History' confused me"; "Explain tracings", "More books and topics to look up", and "Questions were not always clear".

TASK	CORRECT	NOT CORRECT	TOTAL
PRELIMINARY (i)	8	4	12
(ii)	4	8	12
(iii)	10	2	12
(iv)	12	0	12
(v)	5	7	12
ONE	6	6	12
TWO (i)	10	2	12
(ii)	11	1	12
(iii)	12	0	12
THREE (i)	5	7	12
(ii)	9	3	12
(iii)	8	4	12
(iv)	5	7	12

TABLE 13

Performance of Group B students who reported themselves above average in their ability to use the Subject Catalogue

	Very Satisfactory			Satisfactory			Unsatisfactory			N_I	N_G
	Individual	(%)	Group (%)	Individual	(%)	Group	Individual		Group		
2. A SLIDES	66	(82.5)	333 (66.6)	14	(17.5)	160(32.0)	0	(0)	7 (1.4)	80	500
B COMMENTARY	65	(81.25)	319 (63.8)	15	(18.75)	169(33.8)	0	(0)	12 (2.4)	80	500
C SUMMARY WORKSHEET	64	(80.0)	227 (45.4)	16	(20.0)	266(53.2)	0	(0)	7 (1.4)	80	500
D SEQUENCING	65	(81.25)	310 (62.0)	15	(18.75	186(37.2)	0	(0)	4 (0.8)	80	500

	ALL			PART			NONE			N_I	N_G
	Individual		Group	Individual		Group	Individual		Group		
3. HOW MUCH OF THE PROGRAM WAS NEW TO YOU?	15	(18.75)	35 (7.0)	60	(75.0)	373(74.6)	5	(6.25)	92 (18.4)	80	500

	YES			NO			N_I	N_G
	Individual		Group	Individual		Group		
4. WOULD YOU RECOMMEND THIS PROGRAM TO YOUR FRIENDS AS BEING USEFUL?	78(97.5)		445 (89.0)	2	(2.5)	55 (11.0)	80	500

TABLE 14: REACTIONS TO THE PROGRAM (Individual Sessions and tutorial groups)

NO. WHO TOOK PROGRAM IN (a) AN INDIVIDUAL SITTING = 80 (b) A GROUP SITTING = 500
AVERAGE TIME TAKEN TO DO PROGRAM IN AN INDIVIDUAL SITTING = 31.46M

For each topic there are some comments suggesting exercises on locating books on the shelves. This indicates a need to cover information retrieval in a wider context, a subject which may better be dealt with in another program.

4.32 Analysis of the Incorrect Responses of Group A

It had been planned to analyse the incorrect answers of the students who did the program (Group A) for each topic and each task to identify how they arrived at these answers and why they made the errors. It was hoped to discover implications for both program and test modification as a result of this analysis.

Some preliminary work was done. The incorrect answers were listed on score sheets task by task for each test. The Research Assistants attempted to analyse the reasons for the errors and made subjective comments. A tabulation by task across all topics was also attempted.

When these preliminary results were submitted to the Project Team for further comment, however, it became clear that no firm conclusions could be reached based on after-the-event guesses. In addition there was a danger that too much significance could be ascribed to any conclusion made from such a small number of incorrect answers.

To identify errors, it would be desirable to monitor the tests while they are being performed and, if necessary, interrogate the students. This would also have obvious diagnostic possibilities.

A summary of the preliminary tabulation of the results follows:

1. Preliminary task ($N_A = 82$)

Item (ii) (40 wrong answers). Possibly there was genuine confusion between the terms "biography" and 'autobiography"; alternatively some students may have suspected a trick question. A change in the wording of the test is suggested.

Item (iii) (9 wrong answers). By selecting the Subject Catalogue some of these students presumably were going to look up "Jonathan Livingston" or "Seagulls" indicating that they may not have been aware that this was the title of a novel. If so, these incorrect responses are due to the nature of the question rather than the program. The difficulty of giving a title which would be immediately recognisable as a title, had already been recognised.

Item (iv) (4 wrong answers). This is a program fault: students have not understood or not remembered Guideline A. It is difficult to know how this point could have been brought out in any more detail than it has already.

2. Performance test

From the tabulation across all topics:

Task 1

4 did not find "see reference

1 wrote down subdivision instead of heading

1 non-specific heading

The remainder appeared not to have understood the question (4 or 5) or to have been confused or given up for no identifiable reason.

Task 2

In Task 2 all errors (5) were in Topic (i) and were all due to students looking up one particular heading which was similar to one they were asked to find. The research team were aware that this could happen which is why, in Task 3, students were told to ask the research assistant if they needed help. Presumably, the students thought they were right, that is, their perception was poor.

Task 3

In Task 3 the most common error (28 or 29 across all tasks and topics) was due to the student putting his own interpretation on the card. In some of these (perhaps 6) they could have misinterpreted the title. A further 18 found what appeared to be the correct information (e.g. a correct date) but did not look at other information on the card as well. Six stopped looking when they found what appeared to be the right answer (e.g. noted an early date, but not the earliest).

The remainder looked up the wrong heading as in Task 2 (8); may not have understood the question (4); were confused or gave up for no identifiable reason.

4.4 Performance of Group B students who reported themselves as above average in their ability to use the Subject Catalogue

Twelve of the 82 students who did the performance tests without doing the program rated themselves as above average in their ability to use the Subject Catalogue (Very able = 3; Quite able = 9). It was decided to look at their performance on the tests to see if they lived up to their expectations. As Table 13 indicates, this was not always the case.

While the data is not seen as being absolutely valid in that it ignores factors such as the possible differences in difficulty between topics, the indication that students do not get everything correct is clear.

These results suggest that even if a student perceives himself/herself as being proficient in the use of the Subject Catalogue, this may not always be true and consequently, these students could also derive some benefit from doing a program of the type developed in this project.

4.5 Results of the Trials of the Program (Group Sessions)

In the week following the individual trials, all students in the first-year course Education 06102 (except those in the experimental Group A, who had already taken the program in the previous week) were given the program in small groups (from 6 to 13 students per group) as a tutorial in the "library skills" component of the course.

Although the program had only been developed up to this stage as an individual audio-visual tutorial, the lecturers in charge of the first year Education course 06102 believed that it had sufficient merit to justify its inclusion in the course. It was also thought that students denied the opportunity to take an effective program would be at a disadvantage compared with those who took it in the trials as part of their course.

After doing the program in groups, students were asked to complete the "Reactions to the Program" sheet (see Appendix H) The aim was to assess group reaction and it was hoped also to obtain information on the particular aspects and sections which would have to be modified for group use.

Table 14 presents the ratings of 500 of the 1,000 student responses. Data on the same questions gathered during the individual phase is also included.

As would be expected, considering the essentially individualised nature of the program, the ratings of students who did the program in groups has shifted to the right. The tendency for responses to centralise is now more marked in Question 2. The Summary Worksheet has become significantly less popular (due mainly to the fact that not all students were able to do the exercises to their satisfaction, as only one LC list and mini-catalogue could be provided for each group.) However, the drop in those who would recommend the program to their friends was not as great as expected.

Typical comments (Reactions to the Program) were:

Question 1 (Sections which were not clear)

"The last section on relevance is confusing"; "how do you judge relevance?"; "the LC book was not made clear"; "first stage too simplified"; "it wasn't clear when we were supposed to do Exercise 3"; "why was Calwell's book suitable?" "emphasise the use of bibliographies and tracings more"; "explain the numbers which accompany author and title"; "explain the blue cards more - all I know is that they are sub-headings".

Question 2 (Criticisms and suggestions for improvement)

a) Slides

"Remove the steps"; "print is too small"; "avoid repetition".

b) Commentary

"Too long winded; "too slow"; "too simple"; "too basic"; "slow down when giving answers to Exercise 4"; "make the music more in tone with the program".

c) Summary Worksheet

"More time and a catalogue for everyone"; "more practical experience for each person"; "some exercises are too elementary - e.g. look up 'Elections' in the big red book"; "more exercises"; "more participation for all"; "test the transfer of call number to the location of the book on the shelves".

5. CONCLUSIONS

5.1 General

The program can be considered successful in the following respects:

1. It was extremely well received by students.

2. It helped students to select the most appropriate catalogue in which to find information.

3. It helped students to determine the subject heading that best describes a topic.

4. It influenced the speed with which students could -

   a. determine the most appropriate heading

   b. locate it in the catalogue, and

   c. select publications that seemed relevant to the topic.

It was thus successful in its methodological aims and partly successful in its program aims. Results are least conclusive for the task measuring step 4 of the program (selecting relevant publications). However, this step could be regarded as being almost outside the scope of the program. It is felt that the tasks themselves need further development in order to ascertain the effectiveness of this section of the program.

In order to improve or modify the program, the following need to be examined:

1. Students' reactions to the program.

2. Students' responses on the performance tests.

3. Students reactions to the performance tests.

4. Any additional points noted by the project team.

5.2 Reactions to the Program

When students' comments are compared to the program's objectives, as set out in the Table of Specifications, it appears that very few changes are needed. Some of the suggestions are easily remedied, e.g. altering the arrows on the graphics in Step 4. Others suggest some re-wording of the script and minor alterations to the graphics is needed but program emphasis should remain unchanged, e.g. explain the LC List in more detail; explain exactly how tracings can be useful. Others are outside the scope of the program, e.g. a detailed explanation of shelf arrangement.

5.3 Students' Responses to the Performance Tasks

In previous sections the difficulties in developing satisfactory performance tasks have been noted. From the analysis of student responses on performance Task 2, it appears that many of these difficulties relate to the "accidental" nature of alphabetical arrangement. At the catalogue some subject headings are immediately obvious, others can be found by chance but some are difficult to find because a number of similar headings occur in close proximity to one another.

It has been necessary to try to simulate these conditions in the program.

Another problem was to devise tasks of equal difficulty. More time and further testing would have improved this aspect of the tests.

Another difficulty arises in devising tasks that require a judgement on the usefulness of a publication. It is clear that here, as elsewhere in the project, a behaviourist approach cannot be readily applied in areas where an indefinite number of individual reinforcement situations obtain. The performance tasks need very careful wording if the criteria external to information contained on catalogue cards are to be excluded. Even if there had been time for repeated testing and revising of the program to allow for individual judgements as they became evident, it is doubtful whether subjective judgements could be entirely discounted since they are almost always involved in a real search for information.

The project team had anticipated that these difficulties could occur. It has still not reached a conclusion as to the extent to which performance tests are feasible.

Because the project did not full succeed in overcoming these problems, the implications of students' responses for program changes are clouded. However, it appears that the script needs re-wording so that the tentative nature of the judgements involved in selecting appropriate publications from the catalogue is stressed. The desirability of adding more subject headings to the practice catalogue as diversionary headings or "distractors" should also be looked at further so that we can demonstrate the necessity to continue searching until the heading that most exactly describes a topic is found. For example, for the topic "elections", such headings as "Election Statistics" and "Electioneering" could be added.

Differences in the successful use of the catalogue due to the presence or absence of "distractors" only emerged clearly from an analysis of incorrect responses on Task 2 and so "distractors" were not discussed in the original program specifications.

Tasks that are not unique to using the Subject Catalogue, e.g. recognising a call number or a browsing number and knowing the location of a book in the Library, were not considered in this context.

5.4 Students' Reactions to the Performance Tests

The tasks were constructed to test if the program helped students to use the catalogue effectively and efficiently and were not considered to be part of the program. Yet, it is clear from the responses of students that the performance tasks might reinforce or extend the learning process, e.g. "give answers - would indicate whether we had carried out task correctly", "give more practice in finding subject headings". Students who did only the tasks saw that they had a teaching or diagnostic value, e.g. "sheets were effective in checking knowledge of the catalogue".

The project team will need to consider the feasibility of a structured search of the catalogue with feedback after each step as (a) an option that students could use to consolidate learning, (b) a means of teaching concepts not easily conveyed in a simplified setting, e.g. size and complexity of catalogue arrangements where many books exist on subjects with similar subject headings.

5.5 Modification of the Program

The program was developed for individual self-paced use and in its present form needs modification for satisfactory use by small groups. Because the audio-tutorial approach has proved successful, as far as possible an active approach to learning will be maintained and the worksheet and additional slides will show sequences of catalogue cards. It seems possible to retain most of the content and sequence of the program. Practice in actually working through a file of cards will be eliminated but the performance of a search at the Subject Catalogue itself as the final part of the program should compensate for this.

6. PROPOSALS FOR USE OF THE PROGRAM

6.1 General

A considerable amount of time and effort has been spent in developing this program. The research team is aware that some projects, after an initial period of enthusiatic interest, are not always used sufficiently to utilise fully the original results. Every effort will therefore be made to ensure that the program development work is given the widest possible use.

Despite some disappointing aspects which have been referred to, the project proved useful in developing a methodology for the production and evaluation of a tape-slide program. The tape-slide program itself was very favourably received by students. Because of the complexities and considerable resources involved in the development of an effective tape-slide program, there could be possible benefits in adopting in Australia some of the procedures for co-operative rationalisation of topics and co-operative evaluation of programs as used by the Standing Committee of National and University Libraries (SCONUL) in Britain. In Britain there has been a joint project for formative evaluation of library tape/slide programs at the Library and the Institute for Educational Technology at the University of Surrey with funding from the Research and Development Department of the British Library.[14]

The procedures developed in the program at Macquarie University will be continued in the reader education activities of the Library and also made available to other libraries.

6.2 Library's Teaching Activities

The project team are confident that the program, as it stands, is a useful component in the Macquarie University Library's reader education activities, although it will need to be brought up-to-date from time to time in the normal pattern of keeping teaching materials up-to-date.

On the basis of a small follow-up survey carried out towards the end of 1975, it seems that students who have done the program continue to use the Subject Catalogue and consider it useful for assignments. Four tutorial groups, all of whom had viewed the Subject Catalogue program in first semester, were surveyed at the end of second semester on their attitude towards the library and their use of its facilities. All of the 62 students had used the Subject Catalogue: 58 rated it useful (the highest rating on a 4 point scale) and 4 of some use.

The Reader Education Librarian will plan with academic staff, sessions which may be part of the formal teaching program and which will incorporate the Subject Catalogue program as part of students' formal learning experiences. Adaptation of the program for group use would provide greater flexibility for using it in tutorial sessions.

The program has also influenced plans for reader education in other areas, e.g. following on the success of the Subject Catalogue program in teaching a skill in a simplified setting which incorporated a practice element, tutors and librarians involved in planning an essay writing skills component for a first year course are considering ways in which they could apply these conditions to other aspects of information searching.

6.3 Direct Use by Students

We have already experimented with a two-hour tutorial for first year students in which the Subject Catalogue program was integrated into a session on information searching. Students viewed the program in small groups of three and then each student carried out a number of small tasks at the Subject Catalogue on a topic relevant to the course. After each task, students were given feedback on their performance and this helped them to carry out the next task. They were then given a briefing session on how the steps used in a search of the catalogue could be applied to a search for periodical articles through the use of a periodical index and subsequently carried out a number of structured tasks on finding periodical articles on the same topic that was used in the Subject Catalogue search. Reaction to this session was, on the whole, favourable.

Following the successful completion of the experimental phase, some tentative attempts were made to gauge the extent to which students would use the program on their own initiative. A copy of the program was set up near the Subject Catalogue and the procedures for operating it listed in large print on a notice immediately above the Caramate machine A large poster on the library's main notice board in the foyer advertised the program. Users were referred to the Information Desk for further details or for help in setting up the program.

While the exact number of students who viewed the program in this way is not known, it is not high. Only twelve "reactions to the program" sheets were completed and attitudes were generally positive, although faults in the graphics and the sequencing of section 4 were criticised.

Factors that might influence the extent to which the program is used at "point of use" include -

1. The setting - students viewing the program are very visible to other library users and the slides attract casual "over the shoulder" viewing.

2. Time of year - the program is intended for the beginning student. In the second half of the year the need to look at the program may not seem very compelling.

3. Awareness of library staff - staff at the Information Desk have been thoroughly briefed on the objectives and content of the program and have to be able to operate the Caramate efficiently.

4. The program itself - students have no way of scanning the program to see if it can help them.

5. Mechanical problems - the program is simple to operate but it cannot be started instantaneously. There may be delays if the slide magazine needs shifting or the tape needs rewinding. To students who are not machine oriented these operations can seem tedious but unfortunately it does not seem possible to provide a loop program of this length.

While we do not believe that the library alone can motivate large numbers of students to view the program, we intend to make a concentrated effort to promote it for use in about the third week of first semester 1976.

1. We will advertise it during our orientation activities, not as something to view straight away but as the logical next step after the basic mechanics of library use have been mastered.

2. We will contact lecturers and tutors of the first year courses and explain what materials the library has produced and discuss ways that the Subject Catalogue program can be introduced to students.

3. AV programs need to be promoted by enthusiastic library staff who can confidently demonstrate AV equipment. We will have briefing sessions for our own staff to explain the program, teach them to operate the Caramate and discuss ways the program could be used to reinforce the informal help offered to students from the Information Desk.

4. We intend setting up a cluster of carrels in the display area which is directly behind the Subject Catalogue on Floor 2 for displays of library materials. The carrels will be arranged in such a way that they provide some privacy for users. The Subject Catalogue program would be included in this area.

5. From the start of the orientation period, there will be a number of displays designed to assist students to find materials in the library. A display on the Subject Catalogue could occur in this sequence and could advertise the program by following the steps and using the illustrations and examples of the program's script.

6. The program will be publicised in a one page handout, using the research results and possibly some of the display designs. It will be distributed in the library, in the Union and to academics. Copy will also be sent to University News and other university publications.

The tests were originally designed to check the effectiveness of the program but they too have a continuing application. They could be useful in publicising the program, as a remedial device or as an optional element in the program. For publicity purposes, we envisage an advertisement along the lines of "do you think you can use the Subject Catalogue? Try the test and we will give you a profile of your ability." For remedial purposes we could devise a number of self-instructional tasks that cover parts of the program that are causing students difficulty. Optional tasks could enable students to test themselves on what they had learned or to extend their awareness of the scope and organisation of a large catalogue.

6.4 Use Outside Macquarie University

Libraries have shown considerable interest in the program. During 1975, school librarians, who were master teachers in the Teacher Education Program, School of Education, expressed considerable interest in adapting the program on a co-operative basis for secondary school students.

The program has also been viewed by some librarians of tertiary institutions. At a seminar held at Macquarie University on July 17, 1975, under the auspices of the Reference and Reader Education (RARE) group of the Library Association of Australia N.S.W. Branch, a formal session devoted to the project, explained its aims, procedures and results and allowed for discussion of its usefulness to other libraries.

As was expected, most librarians present at the seminar thought that the basic program could be used without change, but that individual adaptations would be needed to take account of different systems, such as classification other than Library of Congress and visual differences such as different arrangements within library catalogues. To cite a fairly trivial example, Macquarie University uses blue cards for "see" references. Slides showing blue cards would have no relevance for a library which uses white "see" reference cards but the program which explains the significance of "see" references would be relevant.

The research team had already anticipated that the program, following its development, could be made available to other libraries in a variety of ways; by giving it away, or having copies for sale either of the complete program, or the script only or slides only. We took the opportunity offered by the RARE seminar to ask participants to indicate their possible interest. A brief survey questionnaire was prepared "on-the-spot". The majority of replies from institutions represented at the seminar indicated that they would like to have either a package containing notes on how to make a similar program or a copy of the script plus copies of the slides. A smaller number of people would prefer the script plus drawings of the slides or tape and slides or a list of slides from which purchases could be selected. One person asked for a description or list of the cards in the mini-catalogue. The ability to meet such requests would depend on resources at our disposal and within the Centre for the Advancement of Teaching of the University. At the time of writing, such resources and staffing were very much depleted.

A package which explains the objectives and methodology of the program and includes a copy of the script and a description of the slides and of the catalogue cards used in the program would seem to serve most purposes.

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WENDT, Paul. "To test refinements in intrinsic programming in pictorial, audio and performance frames to maximize the probability of desired terminal behaviors". Carbondale, University of Southern Illinois, 1965 (ERIC report ED 003 235)

APPENDIX A

PROJECT STAFF

Eoin H. Wilkinson B.A.,M.A., A.L.A.A., Librarian, Macquarie University Library, Chief Investigator.

Judith A. Wade B.A., Dip.Ed. Part-time Research Assistant and Artist at various times during the course of the project, appointed 14th January, 1974.

Mrs. Patricia M. Waters B.A., A.L.A.A. Part-Time Research Assistant, adviser on library components of scripts and performance tests February - March 1974, December 1974 - February 1975 and December 1975.

Mrs. Frances A. Sullivan B.A., Part-time Research Assistant during Phase I, 14th May - 5th December 1974.

Geoffrey R. Scott B.A., Dip. Ed., Part-time Research Assistant; directed the project team during Phase II and the experimental phase, 3rd February - 14th May 1975.

Mrs. Gabriele Pullinen B.A., Part-time assistance with analysis of results, April - May 1975.

Mrs. Pamela Ludwig, B.A., Dip. Lib., A.L.A.A., Reader Education Librarian, Macquarie University.

Mary A. Thomson, B.A., Dip.Ed., M.S., A.L.A.A., Deputy Librarian, Macquarie University.

THE SUBJECT CATALOGUE

This test is designed to test basic knowledge of the scope, organisation and terminology used in the Subject Catalogue. When answering questions, tick the appropriate box or the numbered alternative you think correct - unless the question states otherwise.

1. a. The most direct way to find entries to books by Judith Wright is to look in the Subject Catalogue.

☐ True ☐ False

b. References to books about William Shakespeare are found in the Subject Catalogue.

☐ True ☐ False

c. References to books about politics in Australia are found in the Subject Catalogue.

☐ True ☐ False

2. Which of the following sources can be used to find references to periodical articles about Norman Lindsay?

a. The Subject Catalogue under his name.

b. A suitable index to periodicals, e.g. Australian Public Affairs Information Service.

c. The Author and Title Catalogue under his name.

3. Information is sought on one of Piaget's levels of child development called "concrete operations". This term does not occur in the Subject Catalogue. Under what heading might this information be found in the Subject Catalogue.

---

4. To find information on the freezing of meat, look first in the Subject Catalogue. Which of the following headings in the Subject Catalogue will give the information most directly?

a. Meat
b. Food - Preservation
c. Food, Frozen
d. Meat, Frozen
e. Meat - Preservation

5. Reprinted below are the labels from 4 drawers in the Subject Catalogue. Which of the labels would be found on the drawer containing the card headed Education - Periodicals.

☐ Education - Africa
Education - Zambia

☐ Education, Adult
Education, Secondary

☐ Education - Abbreviations
Education - Yearbooks

☐ Educational anthropology
Educational tests and measurements

6. Number the following subject headings in the order they appear in the Subject Catalogue:

   Chemistry, Analytic

   Chemistry - Quantitative - Tables

   Chemistry as a profession

   Chemistry - Quantitative

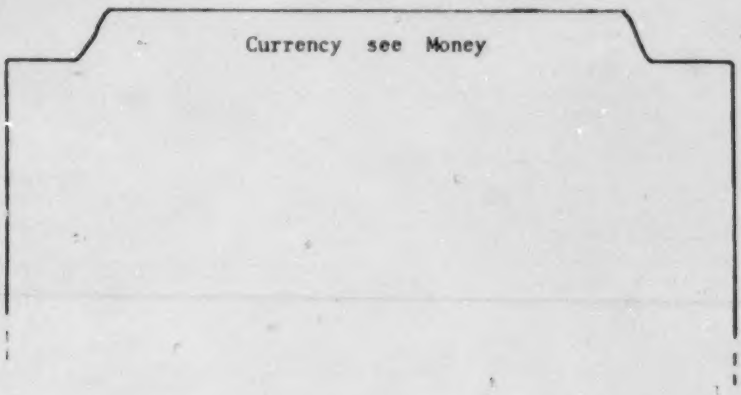
7. To find the titles of journals on psychology which Macquarie University Library holds, look in the Subject Catalogue under the heading:

   a. Periodicals
   b. Psychology
   c. Psychology - Periodicals
   d. Journals

8. Information is required on Labrador Dogs. There is nothing in the Subject Catalogue under this heading or under Dogs, Labrador. Under what subject heading in the Catalogue would the necessary information be found?

   ---

9. Below is an example of a card found in the Subject Catalogue.



It gives the information:

(a) That Macquarie University uses the Subject Heading Currency and not Money.

(b) That Macquarie University uses both the Subject heading Currency and the Subject heading Money.

(c) That Macquarie University uses the Subject heading Money and not Currency.

(d) That Macquarie University does not hold any information on Currency.

10. Which book would seem more appropriate to consult to obtain information on recent developments in nuclear physics, given the details contained on the following catalogue cards?

a.

QC
173
.B41

Bethe, Hans Albrecht, 1908 -

Elementary nuclear theory; a short course on selected topics. New York, J. Wiley 1947.

vi 147p. 22 cm

1. Nuclear physics

b.

QC
173
.J83

Judd, Brian R. 1902 -

Topics in atomic and nuclear theory [by] B.R. Judd and J.P. Elliott [Canterbury, N.Z. University of Canterbury]. 1973. 112p.

Includes bibliographical references

1. Nuclear physics 2. Atomic theory
I. Elliott, James Philip 1929- II. Title

Explain why you made this choice:----------

---

11. Circle the part of the following catalogue card which indicates the exact location of the book on the Library shelves.

BF 575 .A3 .J65	Johnson, Roger N. Aggression in man and animals, by Roger N. Johnson. Philadelphia, W.B. Saunders, 1972. 269p. 1. Aggressiveness (Psychology) 2. Aggressive behaviour in animals 3. Violence. I. Title.

12. Refer again to the card pictured in Question 11, and answer the following:

The tracings on the catalogue card refer to:

a. Additional book titles to look up.

b. Additional subject headings to look under.

c. The bibliographical details of the book.

d. None of the above.

13. Given the topic "the influence of environment on intelligence", decide which of the following methods is best for selecting a few relevant titles from among the 50 listed under "Intellect" in the Subject Catalogue, and rate them in order of efficiency.

a. Write down the call number of each book listed under the heading Intellect.

b. Look for subheadings that will identify books of readings, research, etc.

c. Glance through the cards and note areas in the classification for browsing.

d. Write down the call number of six (6) titles chosen at random from all those under the heading Intellect.

14. To find information on town planning in Campbelltown, first look in the Subject Catalogue under:

a. the heading: Cities and towns - Planning

b. the heading: Cities and towns - Planning - N.S.W.

c. the heading: Cities and towns - Planning - Campbelltown, Australia

d. the heading: Campbelltown

15. The book titled Subject Headings Used in the Dictionary Catalogs of the Library of Congress can be used to find:

a. Additional Subject Headings.

b. Additional Authors.

c. Additional Titles.

d. The complete call numbers of books.

e. None of the above.

This program introduces you to the Library's Subject Catalogue which is situated on Floor 2, directly in front of the entrance doors. You use the Subject Catalogue when you want to see what books the Library has on any subject that interests you.

Of course, using the Subject Catalogue is not the only way to find books in the Library. Where do you look if you know the author or title of a particular book? PAUSE. Yes, the answer's obvious, the Author and Title Catalogue, which is also on Floor 2 beside the Subject Catalogue. For instance, to find Shakespeare's Hamlet in the Library you'd look up the Author and Title Catalogue. PAUSE.

When you only know the subject area or if the information you find using the Author and Title Catalogue is not enough, you need to use the Subject Catalogue. For example, to find critical works about Hamlet or information about Shakespeare, you need to use the Subject Catalogue. PAUSE.

In the catalogue drawers, subject headings are arranged alphabetically. Guide cards on the left give the main subject- Numeration, Numismatics, Nutrition, and so on. Note that subjects need not be topics, they can be people and places as well. Guide cards on the right give subheadings, or divisions, of the main subject - History; Juvenile literature; Addresses, essays, lectures; Congresses; Periodical Indexes, and so on. Many subjects have lots of books written about them, and so subheadings are used to divide the broad subject area into smaller, more precise parts. Subheadings can help you find information quickly in the catalogue. We'll look at them later on in greater detail. PAUSE.

How do you find material through the catalogue? The first step is to decide on a subject heading to look up. Let's say you wanted to know something about electoral processes, in other words, Elections. Which subject heading would you look up? PAUSE. Yes, you'd look up elections. It's very important to choose the heading which most precisely defines your topic. You would not look up the heading Government, or Politics, or Politicians as these are too broad. Of course, if you wanted a broad outline only, you might find that a general book on Politics has a section on Elections. In the Subject Catalogue, however, books are indexed only by the subject of the entire publication. PAUSE.

Behind the subject heading Elections in the catalogue, you will find cards for books on that topic. Each card gives you the following information; the call number, AS 6 .B57, which gives you the address of the books on the shelves, PAUSE, the author, Duncan Black PAUSE, the title, the theory of committees and elections PAUSE, the date of publication, 1958. PAUSE. Also, there's information such as the number of pages, 241, PAUSE, and whether the book has a bibliography. In this case, it has bibliographical footnotes, which could suggest references for further reading. PAUSE. Notice the numbered headings at the bottom of the card, 1. Committees, 2. Voting, 3. Elections. These are called tracings and list other places in the Subject Catalogue where you can find cards for this book. In other words, tracings can suggest related subject headings you can look under. PAUSE.

All of the information on the catalogue card gives you clues for selecting titles. With a bit of practice you can get really quick at scanning titles and zooming in on what is relevant. If a book looks really spot-on, remember to copy down its complete call number, in this case AS 6 .B57. PAUSE.

As we have mentioned earlier, there are often many books listed under a particular subject heading. Some people start their search by noting down areas in the classification where they can browse, and selecting individual titles directly from the shelves. For instance, information on Elections is mostly in the classification JQ 1001, so this would be a good area in the shelves to browse.

We have already said that subject headings don't have to be topics but that they can be people or places too. For instance, you'll find books in the Subject Catalogue, about E.G. Whitlam PAUSE or Sir Cyril Brudenell Bingham White. PAUSE. Also, you'll find books about Ryde PAUSE and an enormous number of books about Europe. PAUSE. Headings need not be single words. They can be phrases - for instance, World Confederation of Organization of the Teaching Profession is a heading in the Subject Catalogue. Headings are often inverted so cards for books on similar subjects can be grouped together. Information on habits of animals, is filed under the heading Animals, habits of, so that cards for books on this subject can be grouped with cards for other books about animals, under headings like Animals, Infancy of and Animals, Treatment of, and so on. PAUSE.

A subject can also be subdivided into subheadings, as we've already seen. These subheadings can help you get to information quickly. Let's take a closer look at how subheadings work. We'll use the subject heading Education as an example as there's lots of material on this in the catalogue. Subheadings are grouped into three separate sequences. The first sequence includes subheadings for the various aspects of a subject - aims and objectives, curricula, economic aspects, philosophy, and also those for the form in which

it appears - addresses, essays, lectures; bibliography, periodicals, yearbooks. Together these/made up the first form and aspect subheadings alphabetical sequence immediately after cards for general books on Education. Next come period subheadings - these can be useful if you want just a few recent books on Education. So, it's form and aspect subheadings in one alphabetical sequence, followed by period subheadings in straight chronological sequence.

Then come geographical or local subheadings. These are some examples of the kind of subheadings you'd expect to find in a geographical sequence. PAUSE. Did you notice that these can include regions, countries, states, cities and towns. PAUSE.

To summarize what we've covered so far, the main subject heading comes first, in this case Education. Then follow its subheadings - first form and aspect subheadings, all together in one alphabetical sequence, then the period or time subheadings and finally the local subheadings. After all these subheadings, comes the next group of main headings - inverted headings. An example of an inverted heading in the field of Education is Education, Ancient. PAUSE.

What about a heading like this one? Education as a Profession. This is an example of the main subject term Education, followed by another word or phrase. This kind of subject heading comes last in the sequence, after inverted headings. PAUSE. Knowledge of these filing rules can save you a lot of time at the Subject Catalogue. We will repeat them later in the programme. PAUSE.

Note that inverted headings and subheadings can be readily distinguished by their punctuation as well as by other features. Education dash curricula comes before Education comma Ancient. PAUSE.

The next step is to look briefly at some of the kinds of cards you can expect to find behind various subheadings. Behind the subheading Addresses, essays, lectures, you will find books of collected readings. PAUSE. Behind the subheading Dictionaries, you'll find material usually kept in the reference section, encyclopaedias and, of course, dictionaries. PAUSE. Behind the subheading 'Periodicals' you'll find journal titles. PAUSE.

We've covered quite a lot of information so far. We've explained that when choosing a subject heading, you need to think of a specific term, and also that this term may be a person, place or a topic. We've discussed the information you'll find on catalogue cards and how to interpret and use it. Also we've explained filing order - the arrangement of subject headings and subheadings in the catalogue. PAUSE.

Now let's make some use of what we've learned so far. Say we want to find which education journals the Library holds. We'd look up the heading Education and the subheading periodicals. These cards have been arranged alphabetically by journal title - Australian Journal of Education, followed by Forum, for example. As you'd expect, the call number indicates exactly where to find the journal on the shelves.

You will remember that a book is indexed in the Subject Catalogue by the title of the book as a whole, not by separate chapters. For instance, the book Australian Social Issues of the 70's by Paul R. Wilson is a collection of essays on a whole range of contemporary social problems - Health, Education, Drugs, Immigration, Aborigines, and others. However, you won't find this book by looking in the Subject Catalogue under any of these headings. The book is indexed only by its title; it appears under the subject heading Australia and the subheading social conditions dash collections. In the same way, individual articles that appear in single issues of a periodical are not indexed. This would be a mammoth task and there are published guides called periodical indexes which index the subject of articles that appear in a wide range of journals. To locate indexes, look under the subheading periodicals dash indexes. PAUSE.

Detailed information about periodicals and periodical indexes and how to locate and use them is beyond the scope of this programme, but will be the subject of a later programme. In the meantime, if you have any problems in this area, don't hesitate to ask the librarians at the Information Desk for help.

There is another point to note about the arrangement of headings in the catalogue. Subject headings are arranged on a word-by-word alphabetical basis. You can see what this means by comparing the order of headings in the lists in front of you. The list on the left is arranged word-by-word - the principle used in the Subject Catalogue. The list on the right is arranged letter-by-letter.

You can see that in the catalogue, all subject terms beginning with the word Tax are filed before any that begin with another word such as Taxation. PAUSE. This is another filing rule that will save you time at the catalogue. PAUSE.

Let's try to summarize once more what we've been saying about filing order. As an example, the main subject heading Musicians, is followed by various subheadings. Next comes the inverted headings - in this case Musicians, English. Finally comes the subject term followed by another word or phrase. Our example is Musicians as Authors. PAUSE ... (MUSIC).

How do you know which subject heading to look up? Remember the Elections example at the beginning of the programme? You might have thought of Polls instead. If you did, you'd have found a blue guide card called a see reference. This is an example of a term not used in the subject catalogue. You'd go to Elections instead. Sometimes you may have difficulty in matching the term you think of to those used in the Subject Catalogue. Terminology changes rapidly in some fields and it is almost impossible to keep up.

"I used to think I was poor ... then they told me I wasn't poor, I was needy ... then they told me it was self-defeating to think of myself as needy. I was deprived... then they told me deprived has a bad image. I was underprivileged ... then they told me underprivileged was overused. I was disadvantaged ... I still don't have a dime. But I have a great vocabulary "

We put as many see references as we can in the catalogue but you will often need to think of terms yourself. Selecting subject terms is something you develop a feeling for over time - it's a skill that improves the more you use the Subject Catalogue. PAUSE.

Remember earlier we stressed the need to use specific terms when you are working with the catalogue. Nine times out of ten, you will save yourself a great deal of time by doing this. However, there may be occasions when you don't get enough information from books listed under a particular heading. In such a case, you may want to look up a related or broader term. For instance, say you were looking for information about the women's liberation movement in Australia. If you looked under the heading Woman and the subheading Rights of women, you'd find information on women's rights in the United States but nothing on Australia. To find the information you need, you'd have to go to a broader heading and use a book like the one we mentioned earlier - Wilson's Australian Social Issues of the 70's, which contains a section on women's rights in Australia.

There are some things you can do to help you track down related headings. Remember we suggested tracings on catalogue cards. Well a better and more systematic way is to use the book, Subject Headings Used in the Dictionary Catalogs of the Library of Congress, which is kept near the Subject Catalogue.

As Macquarie selects its subject headings from this list, some people prefer to go to it straight off in order to select their subject headings, before beginning their search in the catalogue.

Whether you use it that way or not, it's definitely useful for finding related headings and it's worthwhile knowing how to use it.

When you look up a subject in this volume, you find a list of headings which is divided into three groups, denoted by the symbols sa, x and xx respectively. sa means see also and indicates narrower or related headings which you could consult for relevant information, for example, election forecasting, local elections or campaign management.
x merely refers to synonomous terms which you may think of but which are not used in the catalogue - remember our Polls example.

xx indicates broader subject terms which include some information on the topic you are researching. The subject Representative government and Representation is in this category. The main thing to remember about the book is that any of the headings under sa and xx could be of use to you.

The Library of Congress list is brought up-to-date with supplements from time to time. These are kept near the catalogue and are helpful for locating recent subjects.

The Library of Congress list provides clues, but it does not cover all possible approaches. You will still need to think of terms for yourself some of the time. PAUSE. The Subject Catalogue is a working tool from which you select books that appear to be relevant. PAUSE. You cannot, of course, tell how useful a book will be until you examine it and books shelved near it PAUSE As a result of what you find on the shelves, you may decide to search further in the Subject Catalogue or to search for other kinds of materials, such as periodical articles which often provide more up-to-date information. PAUSE.

All the main points we've covered are summarized on the printed handout which accompanies the programme. Keep it for later reference.

This programme has not, of course, covered every detail of filing order and so on, that you may occasionally come across. Moreover, there will be times when you'll find one of the inconsistencies, omissions and errors that do sometimes occur in the Subject Catalogue. The librarians at the Information Desk can help you with any problems you might encounter - don't forget to ask their advice.

What this programme has done is to provide you with the knowledge you need to use the Subject Catalogue 74

effectively almost all the time. Moreover, you'll find that the more you put this knowledge into practice, the more efficient and skilful you'll become, as you develop your own search strategies.

APPENDIX D

SUBJECT CATALOGUE

PERFORMANCE TEST PART A

Essay topic:

In recent years a number of psychologists have made studies of aggression in animal societies. What are the implications of this kind of research for the study of aggressive behaviour in man?

Two headings in the Subject Catalogue which would direct you to information relevant to this topic are:

A. Aggressiveness (psychology).

B. Animals, habits and behaviour of.

1. Given the topic above, you would no doubt find both headings of some use for the purposes of this test, however, we would like you to look up both headings in the Subject Catalogue and determine which one you consider likely to provide more useful information, A or B.

   Take subdivisions of headings into consideration.

2. Briefly give three reasons (or more) for your choice.

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MACQUARIE UNIVERSITY LIBRARY

APPENDIX D

SUBJECT CATALOGUE

PERFORMANCE TEST PART B

The starting point for your search is the subject heading "radio wave propagation in the ionosphere". Consult the Subject Catalogue to locate material that seems pertinent to this topic. Use your knowledge about the workings of the Subject Catalogue to find related headings and stop your search when you come to a catalogue card that looks like this:

QC PERFORMANCE, TEST OF
100 Use of the Subject Catalogue.
.U557 Macquarie University Library, 1974.
no.890

THIS CARD IS FOR TEST PURPOSES ONLY.

When you find the test card, record its identification no. and briefly list, in order, the steps you took in your search.

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MACQUARIE UNIVERSITY LIBRARY **APPENDIX D**

THE SUBJECT CATALOGUE - PERFORMANCE TEST - **PHASE I**

In this test you are asked to carry out a search for information using the Subject Catalogue. Choose the subject of your search from the following:

History of flight

Please underline the topic you choose.

You are asked to compile a bibliography or list of books of, say, 6-8 titles which you would expect to provide the best information on your chosen topic.

Of course, you can't be sure just how relevant a book will be until you examine it on the shelves. For the purposes of this test, however, you are asked to apply your knowledge of the Subject Catalogue to make a judgement about the value of the titles you find, without actually going to the shelves.

You are provided with a number of "search trees" on which to record the steps you take in your search. Place a tick in the appropriate boxes and fill in the subject headings you use in the blanks provided. Extra "search trees" are available from the Information Desk should you need them.

Be sure to number these sheets in the order you use them.

At the bottom of each completed page, list the call number, and author of each publication you wish to include in your bibliography and, briefly record your reason for selecting each title.

Record your starting time [ ]

and finishing time [ ] here.

SUBJECT OR TOPIC OF SEARCH: .....

Step 1 Choose a subject heading

Record it here: .....

Record its subheading, if any:

.....

How did you make your choice?

___ Thought of heading yourself.

___ Other source. Please specify.

.....

Step 2 Look up the heading in the Subject Catalogue

Heading is not in the catalogue. ☐

Start a new search tree

Subject heading exists, but not the subheading you've nominated. ☐

Start a new search tree

See reference directs you to another heading. ☐

Record it here.

.....

.....

Look up appropriate heading.

The heading is found in the catalogue. ☐

Step 3 Scan the catalogue cards behind this heading

No useful publications found. ☐

1 or more useful publications ☐

Use this space to record any extra headings you find to look up:

Step 4 Scan catalogue cards behind any subheadings that look useful. If you find useful publications record the relevant subheading(s) here.

.....

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P.T.O.

iii.

Record the call number and author of publications you wish to include in your bibliography here, and the reason for your choice.

Do you need more information ☐ No

☐ Yes. Start a new search tree.

IF YOU HAVE FINISHED YOUR SEARCH, DO NOT FORGET TO RECORD FINISHING TIME ON COVER SHEET.

MACQUARIE UNIVERSITY LIBRARY APPENDIX E

SUBJECT CATALOGUE - ATTITUDE SURVEY

PART I:

Please read the following statements carefully and indicate how you feel about each one by placing a tick in the appropriate box.

Please answer every question.

	Strongly agree	Agree	Don't know	Disagree	Strongly disagree
1. The programme told me nothing, or very little that I did not already know about the Subject Catalogue.					
2. The programme has taught me all I expect to need to know about the Subject Catalogue.					
3. I expect to find information for essays, assignments, etc. more efficiently than before I did the programme.					
4. The programme was in more detail than I need.					
5. I expect to be able to make better use of library resources after doing this programme.					
6. The programme was too long.					
7. I found the programme hard to understand.					
8. I would like to see this programme made available to all first-year students.					
9. I expect to use the Subject Catalogue more than I did before doing the programme.					
10. I found the programme an interesting experience.					

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SUBJECT CATALOGUE - ATTITUDE SURVEY

PART II:

Please indicate, by placing a tick in the appropriate box, with which of the following areas (if any) the programme has been of help to you.

- ☐ When to use the Subject Catalogue.
- ☐ The kinds of headings that appear in the Subject Catalogue.
- ☐ To think first of specific subject headings.
- ☐ How to use tracing notes.
- ☐ How to use the Subject Headings Used in the Dictionary Catalogs of the Library of Congress list.
- ☐ When to think of related or broader headings.
- ☐ How subject headings are arranged in the Subject Catalogue.
- ☐ How to use subheadings.
- ☐ What to use to locate periodical articles which are not listed in the Subject Catalogue.
- ☐ How to select the most useful titles from a number of titles under a particular heading.
- ☐ How to choose areas in the L.C. classification scheme in which to browse by using the catalogue.

PART III:

Please write down any other comments you have about the teaching programme and any suggestions for improving it.

3

MACQUARIE UNIVERSITY LIBARY

APPENDIX F

SUMMARY - WORKSHEET

STEP 1: Which catalogue should I use?

Guideline A:

Books about - use the Subject Catalogue

Books by - use the Author & Title Catalogue

Exercise 1

Which catalogue would you use to find the following? (Tick appropriate box).

	Author & Title Catalogue	Subject Catalogue
a. "Winnie the Pooh" by A.A. Milne.	☐	☐
b. Wombats	☐	☐
c. Information on the exploits of Sir Edmund Hillary.	☐	☐
d. "Alice in Wonderland".	☐	☐
e. Why did the Australian Labor Party win the 1972 elections?	☐	☐

STEP 2: Defining the subject

Guideline B:

Select the terms which you think most closely fit the topic you have in mind.

Exercise 2

Which THREE subject headings from the following list most ACCURATELY describe the topic: "Why did the Australian Labor Party win the 1972 elections?" (Tick appropriate boxes).

a. "Elections"	☐
b. "Australian Labor Party"	☐
c. "Success"	☐
d. "Political Science"	☐
e. "Australia - politics and government	☐

Guideline C:

Three of the aids available to help you determine and find precise subject headings are -

(i) The librarian at the Information Desk,

(ii) The Library of Congress Subject Headings List.

(iii) See references.

STEP 3: Looking up a subject heading.

Guideline D:

When a large amount has been written about a subject, expect to find not just the subject heading listed in the Subject Catalogue, but also, behind it a number of more specific subdivisions.

Exercise 3

Using the subject heading "Australia" and its subdivision "Foreign Relations" write down the author and title of the first card that appears behind this subject heading:

Answer:

Author:

Title:

STEP 4: Selecting relevant publications

Guideline E:

The author, title, date of publication, number of pages and notes which appear on catalogue cards can provide hints as to the relevance of publications.

Exercise 4

For each of the books below, indicate whether it appears relevant to the topic "Why did the Australian Labor Party win the 1972 elections?"

First tick your decision for each publication (Relevant/Not Relevant) and then tick your reason(s) for each decision. (Refer to the catalogue cards behind the subject heading "Labor Party (Australia)"), in the drawer of cards.

Publication	Decision		Reason(s) for Decision			
	Relevant	Not Relevant	Date	Title	Author	Notes
a. Calwell, A. Labor's role in modern society.	☐	☐	☐	☐	☐	☐
b. Ellis, M. The Garden Path	☐	☐	☐	☐	☐	☐
c. Mayer, H. Labor to Power	☐	☐	☐	☐	☐	☐
d. Oakes, L. The making of an Australian Prime Minister.	☐	☐	☐	☐	☐	☐

APPENDIX G

BACKGROUND INFORMATION

YOUR NUMBER: (See Research Assistant): _____

STUDENT STATUS (Please Tick Appropriate Box)

(i) Full Time ☐ Part Time ☐ External ☐

(ii) First Year at Macquarie ☐ Later Year at Macquarie ☐

EDUCATION TUTORIAL GROUP

(i) Day of the week: _____
(ii) Time: _____
(iii) Number of Tutorial Group (if known): _____

AGE (Please Tick Appropriate Box)

Under 20 ☐ 20-25 ☐ Over 25 ☐

PREVIOUS WORK EXPERIENCE (Please State)

_____

_____

_____

_____

LIBRARY EXPERIENCE

(i) List the names of the libraries which you have used prior to coming to Macquarie.

_____

_____

_____

(ii) To what extent do you consider yourself able to use this Library's subject catalogue? (Please tick appropriate box)

Very Able	Quite Able	Get By	Have some Trouble	Have a lot of trouble
☐	☐	☐	☐	☐

(iii) Do you think you could benefit from doing a half hour program on how to use the Subject Catalogue of this Library? (Please tick appropriate box). Yes ☐ No ☐

(iv) Have you ever undertaken any program (lecture etc.) on how to use this library. Yes ☐ No ☐

If yes give details: _____

_____

MACQUARIE UNIVERSITY LIBRARY

APPENDIX H

YOUR REACTIONS TO THIS PROGRAM

YOUR NUMBER:

1. Were there any particular sections of the program which were not clear? If there were, could you:

   a. Specify those sections
   b. Explain why they were not clear
   c. Make any suggestions as to how we could improve them.

2. Could you indicate how satisfactory the following aspects of the program were. If you did not like any particular aspect, please make suggestions as to how we could improve it. (Please tick appropriate box for each aspect).

A. The Slides

Very Satisfactory	Satisfactory	Unsatisfactory
☐	☐	☐

Suggestions for improvement:

B. The Commentary

Very Satisfactory	Satisfactory	Unsatisfactory
☐	☐	☐

Suggestions for improvement:

C. The Summary/ Worksheet

Very Satisfactory	Satisfactory	Unsatisfactory
☐	☐	☐

Suggestions for improvement:

P T o

D. The sequence in which the program was presented

Very Satisfactory	Satisfactory	Unsatisfactory
☐	☐	☐

Suggestions for improvement: _____

_____

_____

_____

_____

3. How much of the program was really new to you? (Please tick appropriate box).

All	Part	None
☐	☐	☐

4. Would you recommend this program to your friends as being useful?

Yes	No
☐	☐

Please don't discuss this program with your friends until it has been finalised.

APPENDIX I

PRELIMINARY TASK

YOUR NUMBER: out ☐ back ☐

TASK:

Which of the library's two catalogues would you use to find each of the following? (Tick appropriate box)

	Author Title Catalogue	Subject Catalogue	Both Catalogues
(i) Information about Kung Fu	☐	☐	☐
(ii) A biography of Sir Winston Churchill	☐	☐	☐
(iii)"Jonathan Livingston Seagull"	☐	☐	☐
(iv) A novel by Mark Twain	☐	☐	☐
(v) Conferences on Alternative Education	☐	☐	☐

APPENDIX J

TOPIC: "The Repair of Motor Cars". Sheet 1.

YOUR NUMBER:

out ☐ back ☐

TASK 1.

Supposing you want information on the repair of motor cars. Write down the heading(s) which would be best to look up in this library's subject catalogue to find this information. (Note: If there are any aids you wish to use to help select these headings please feel free to use them).

Your Heading(s): _____

_____

_____

_____

TOPIC: " The Repair of Motor Cars ". Sheet 2.

YOUR NUMBER: out ☐ back ☐

HOW YOU GOT YOUR HEADING(S) IN TASK 1.

(i) What source(s) did you use to work out the heading(s) which you thought would be best to look up in the subject catalogue to find information on the repair of motor cars? (Tick appropriate box or boxes).

A. Yourself	☐
B. The Librarian.	☐
C. Library of Congress Subject Headings List.	☐
D. A Blue "See" Card in the Catalogue.	☐
E. Other.	☐ Specify:

(ii) If you used more than one of the above sources in what order did you use them?
Order:

(iii) Did you check to confirm that your heading(s) existed in the catalogue?

Yes ☐ No ☐

TASK 2.

(i) Look up the subject heading 'Automobiles" and its subheading "Maintenance and Repair" in the subject catalogue. Write down the Author and Title of the first publication listed behind this heading.
Author:
Title:

(ii) On what Floor of the Library would you find this book?
Floor:

(iii) On what Floor of the Library would you find a book whose call number began with B?
Floor:

TOPIC: "The Repair of Motor Cars".

YOUR NUMBER: out [ ] back [ ]

TASK 3.

(i) Assume that you are particularly interested in finding a publication which gives information on repairing car body-work. Look up the subject heading "Automobiles" and its subdivision "Maintenance and Repair" and write down the Author and Title of the publication listed behind this heading which might best provide this information.
(Note: IF YOU ARE UNABLE TO LOCATE THE HEADING "AUTOMOBILES - MAINTENANCE AND REPAIR" ASK THE RESEARCH ASSISTANT FOR HELP).
Author:
Title:

(ii) Which publication listed behind the heading "Automobiles - Maintenance and Repair" is published locally? Write down its Author and Title.
Author:
Title:

(iii) Write down the full call number of the volume listed behind the heading "Automobiles - Maintenance and Repair" which is the one most recently published.
Full Call Number:

(iv) Which would be the best browsing call number to use to find books with information on the repair of motor cars?
Best Browsing Call Number:

TOPIC: "The Repair of Motor Cars". Sheet 4.

YOUR NUMBER: out [ ] back [ ]

TASK 4.

The aim of these 4 sheets was to determine how effectively readers can use the subject catalogue.

Could you please make any comments on how you think any/all of these sheets could be improved.

APPENDIX K

TOPICS OF THE SIX PERFORMANCE TESTS - PHASE II

1. The History of the Cinema
2. Making Your Own Beer
3. The Repair of Motor Cars
4. Evidence for and against the Existence of Spirits
5. Is Marijuana Physically Harmful?
6. Surf Board Riding

APPENDIX L

March 1975.

SCRIPT OF COMPOSITE PROGRAM - PHASE II

This program introduces you to the Subject Catalogue - one of the two catalogues situated on Floor 2 directly in front of the entrance doors.
First some points on using the equipment, and then some points on how the program is organized.
At various stages in the tape, when you feel you might like to stop, or when you are asked to do exercises, some music is played. - This is your signal to switch off the recording. Turn on when you wish to continue, or to check if your answers are correct.
This machine CANNOT be rewound as this gets the slides out of sequence. So you can only press "Stop" or "Start".
You should have with you a combined summary/worksheet which you will be using throughout the program to test yourself. You can use this in the future when you are using the S/C.
The purpose of the large red book and the drawer of cards will become clear as the program progresses.
This program is divided into a number of steps. Their order is the same, basically, as the steps you would take when using the library's S/C to locate material. The S/C can be used to find information on subjects as varied as George Bernard Shaw, wombats and the Australian Labor Party. (Pause).
When you need information the first thing you must decide is which of the Library's 2 catalogues to use - the A/T/C or the S/C.
If you have no particular book in mind, but simply want information <u>about</u> a subject, then use the S/C.
On the other hand, if you know the author or title of a certain book, then use the A/T/C.
Let's take an example - If you wanted a <u>biography</u> of George Bernard Shaw, that is a book <u>about</u> the man, you would use the S/C. Here is a book by Pearson which concerns G.B.S's life and personality.
However if you wanted a book <u>by</u> Shaw, such as his play "Pygmalion", you would look up Shaw in the A/T/C. Among the catalogue cards under his name appears this one. (Pause) You could also find this card by looking up the play's title - "Pygmalion" in the A/T/C.
To help you decide which catalogue is better, the following rule may be useful - Books ABOUT, use the S/C
Books BY, use the A/T/C.
You should remember that the S/C only indexes <u>whole</u> books. PARTS of books are not covered. For instance, chapters about G.B.S. appear in many general books on English Literature, but the Library DOES NOT index these chapters separately in the S/C; and

in the same way separate articles in journals are not indexed individually. (Pause).
Now for our first summary. - Read Guideline A and then test yourself by doing Exercise 1. Turn off the machine to do this and turn it on again when you are ready to check your answers. (Music).
(Answers) Winnie the Pooh is obviously the title of a book, written by A.A. Milne and therefore you would use the A/T/C.

Wombats - for information about this animal you would use the S/C.

For publications about the exploits of Sir Edmund Hillary you would use the S/C. However Hillary could have written some books himself - these would be books by him and to find these you would have to use the A/T/C. - So in this case it would be appropriate to use both catalogues.

"Alice in Wonderland" is the title of a story and consequently you would use the A/T/C.

Why did the Australian Labor Party win the 1972 elections? - that's information about the A.L.P., the elections of '72 etc. and so you would use the S/C.
Let's assume that you are interested in why the A.L.P. won the 1972 elections.
After deciding that the S/C is the best starting point, the next step is to work out WHERE you would look in the catalogue.
To do this you will need to think of THOSE TERMS WHICH MOST CLOSELY FIT YOUR TOPIC.
Refer to Guideline B and then try Exercise 2. When you are ready to check your answers, turn on the machine. (Music).
(Answers): Success is far too broad and could cover success in any area and therefore is not appropriate.

Political Science is also too broad; it could refer to any aspect of politics.

Australia - Politics & Government, although fairly general, could possibly lead you to relevant material.

Elections, although it is not an exact fit, could cover this topic quite well.

Australian Labor Party, however, is the term which most accurately describes it.
Having decided, then, that Australia - Politics & Government, Elections and Australian Labor Party could all be useful you should go to the S/C to see if these subject headings are used by the Library.

To save you going to the actual catalogue, we have provided you with a practice catalogue - the drawer of cards on the table. (Pause).

Check now to see if you can find Australia - Politics & Government, Elections and Australian Labor Party. REMEMBER, that the catalogue is arranged in alphabetical order with Main Subject Headings on the left hand side and Subject Subheadings on the right hand side. (Music).

As you discovered, Australia - Politics & Government and Elections are used but the heading Australian Labor Party is not. (Pause).

When a subject heading is not used a BLUE SEE reference card usually tells you which one is - in this case Labor Party (Australia) is used instead of Australian Labor Party.

Blue See references are useful, then, to help you find headings in the catalogue. (Pause)

The large red book on the table next to you can also suggest headings. (Pause). This is the LCSHL* and is kept near the S/C on Floor 2. Use it now to look up Elections. (Music). Here is the relevant page - number 408. (Pause). Notice that headings related to Elections have been grouped together. (Pause - 15 secs).

Both the LCSHL and the Blue See card are useful to suggest appropriate catalogue headings BUT the best source of help is the Librarian at the Information Desk.

All this information on AIDS is summarized in Guideline C on the summary/worksheet. - Read it now. (Music).

We have been talking about the Labor Party and the 1972 elections and have selected the headings Australia - Politics & Government Labor Party (Australia), and Elections. (Pause).

Look up ELECTIONS again in the drawer of cards. (Music). Let's see how the cards are arranged.

Behind the main heading Elections are general books about that subject. (Pause - 7 secs)

Following these are grouped those which refer to specific aspects of Elections. (Pause - 3s). Look through these with me now.

The first aspect is history. In other words if you wanted a book on the history of elections you would look here.

Next is statistics. (Pause).

And the final group is concerned with elections in different countries. So to find books on elections in Australia you would look up Elections and then its subdivision Australia. (Pause).

We have decided that there might also be relevant material under the broader subject heading Australia and its subdivision -

* Library of Congress Subject Heading List

Politics & Government. (Pause). As you look this up now you will notice that there are several subdivisions beginning with the words - Politics & Government. (Pause). They represent various periods of time. (Pause). The likeliest place to find current information is under the most recent subdivision 1945 on.
So always remember to keep looking through subdivisions until you find the one most suited to your topic.
Now, with reference to Guideline D try Exercise 3. (Music).
(Answer): The publication you should have found was one titled "Politics and Foreign Policy in Australia: the impact of Vietnam and conscription" by Henry Albinski.
Now look up the main subject heading Labor Party (Aust.) (Music).
Now that you have precisely defined your topic and located a specific subject heading - in this case Labor Party (Aust) - the next step is to decide which publications behind that heading are most relevant. The information on catalogue cards can help you determine which books will be most useful, and help you discard ones which are obviously not going to be of use.
Look behind the heading Labor Party (Aust.) and you will find quite a few books listed, but not all of these will concern the 1972 federal elections or the events leading up to them. (Pause).
Let's look at the first catalogue card.
Notice the call number - J[illegible] .[illegible] .C2 (Pause). This is how the library classifies books. J books like this one are concerned with politics (whereas L books, for instance, are concerned with education). The complete call number gives you the address of the book on the shelves. Then you'll notice the author - Arthur Calwell, and the title - "Labor's Role in Modern Society". (Pause). The title is the most obvious guide to the book's contents. Then the book was written in another clue - 1963. Also there's information such as the number of pages, 192 and additional notes. In this case the notes show that the book includes bibliographies which are lists of references for further reading on the topic.
Notice the numbered terms at the bottom of the card. (Pause) - 1. Labor Party (Aust) and 2. Australia - Politics & Government. These are called Tracings and list other headings such as "Australia - Politics & Government" where you can find cards for this book. In other words, Tracings can suggest further related subject headings you can look under.
All the information on the catalogue card gives you clues for selecting titles. If a book looks relevant, remember to copy down its complete call number, in the case of the Calwell book, J[illegible] 400[illegible] .L3 .C2. The coloured guide to the Library's collection,

just behind the information desk will show you on which floor A books are kept - Floor 3.
Have a look now at the other cards behind t is heading - Labor Party (Australia), and see if you can determine which books appear to be most relevant to the topic. To help you do this refer to Guideline 3 and do Exercise 4. (Music).
(Answers): The Colwell book, although published pre 1972 (1963) does appear to be relevant because of its general title "Labor's Role in Modern Society". This indicates that it could provide us with some historical clues for Labor's victory in 1972. (Pause)

The Ellis book, "The Garden Path, the story of the saturation of the ALP by communism" you probably rejected as the title suggests something too specific and basically unrelated to why Labor won the '72 elections. It is also about an individual, John Garden, which we find out from the third tracing at the bottom of the card.

The Mayer book looks more promising. It would be worth looking at because it is recent (1973), includes bibliographies, and it's title appears spot on. (Pause).

The Oakes Book also looks good. Although we are not sure that Whitlam is the PM concerned from the title itself, the date (1973) and the tracing Whitlam indicate that he is.
A word about browsing. Where there are a lot of books listed behind a subject heading it is often useful to scan the catalogue cards and note down frequently occurring call numbers where you can browse. You can then select books directly from the shelves. Look at the call numbers on the cards behind the heading Labor Party (Aust.) (Pause 7s).
It looks like books about the Australian Labor Party are mostly in the JQ 4008 area of the classification. This would be a good area on the shelves to browse.
In using the Specific subject heading - Labor Party (Aust) we have found a number of publications which will be worth looking at. There will be times, however, when specific subject headings will not lead you to enough information. (Pause).
Take wombats. Under this subject heading there is only one listing - an ABC radio program title "The death of a Wombat". So to get more information you would have to think of more GENERAL subject terms such as Marsupials, Mammals or even Animals. The more general books listed under these headings will probably include sections on wombats.
We hope that this program has been of help to you. All of the program's steps are summarised in Guideline form on your worksheet.

You keep this to refer to whenever you are using the S/C. By following these steps you will develop skilful and efficient library search strategies.

Finally, remember that the Librarians at the Information Desk are there to help you - Please don't hesitate to ask for their advice.